

March 1952

house+home

edition

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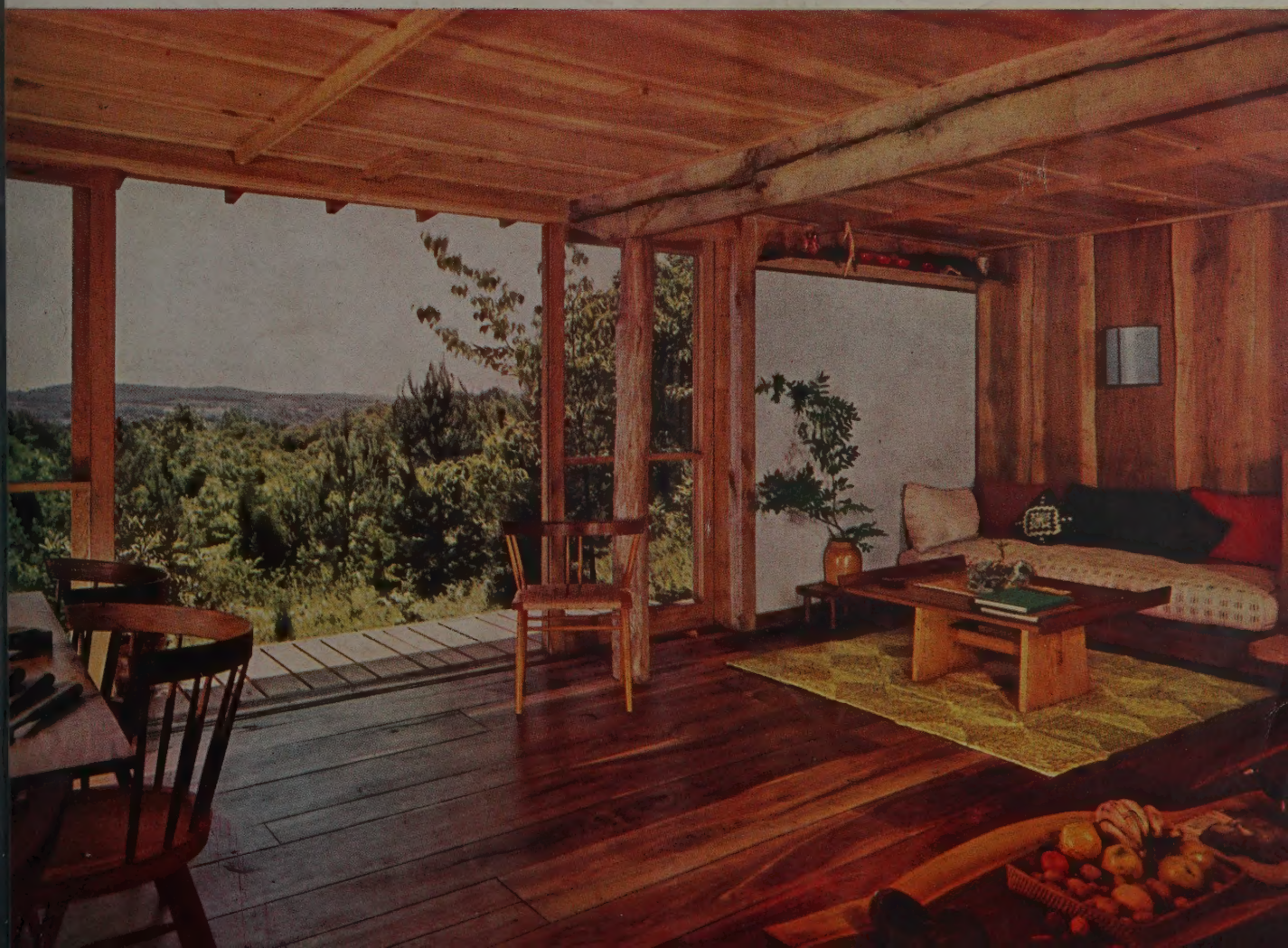
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March, 1952

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SIXTY-SECOND

Annual Statement

WOODMEN ACCIDENT COMPANY

Presented by
Home-Security
department

President's message

To Home Financing Executives

We are proud to invite you to read this report of the financial condition of Woodmen Accident Company as of December 31, 1951, at the close of our 62nd year of progressive service.

Woodmen Accident Company has proved to be an adequate and dependable source of funds when disability strikes. Since 1890, Woodmen Accident Company has continuously provided self-reliant families with insured security. The \$28,035,000.00 paid to these families by Woodmen Accident Company attests to the effectiveness of the or accidental injury industry in action and at work.

By joining with responsible home financing firms to help safeguard private credit, Woodmen Accident Company further demonstrates the potency of our free enterprise system. Through our "Home-Security" service of providing home payment protection, a mortgagee fortifies its first line of defense against mortgage risk—the ability of the borrower to keep monthly home loan installments current.

"Home-Security" statistics are of vital significance to home financing executives at this time. The consensus seems to be that new ways of reducing overhead must be employed if good servicing and collection policies are to be maintained.

A study of "Home-Security" indemnity statistics discloses that during a thirty-six month period a mortgagee is exposed to having 22.32% of its borrowers disabled for more than 14 days. Of this group, 55.38% are disabled for more than 30 days and 20.66% are disabled for more than 90 days. This study also demonstrates how the "Home-Security" monthly indemnity of \$50, collected from Woodmen Accident Company and applied by the mortgagee or correspondent to the monthly home loan installment has prevented "slow down in collections" and delinquencies.

"Home-Security" service is one more proof that a "free mortgage market" operates in the public interest and is deserving of confidence.

With your continued support we look forward to the opportunity for even greater service in 1952 and the years to come.

H. A. Atkinson
President

ASSETS

Cash—	Money available for immediate payment of claims or other cash demands.....	\$ 357,568.47
First Mortgages Owned—	Assets invested in first mortgage loans on farms and city real estate.....	436,608.39
Bonds Owned—	Represents investment in bonds of the U. S. and Canadian governments and their political subdivisions and widely diversified U. S. Corporations.....	3,220,469.85
Stocks Owned—	Actual market value of preferred stocks in widely diversified U. S. Corporations.....	237,118.00
Real Estate Owned—	Book value of site for future home office building.....	63,250.00
Other Admitted Assets (Net)—	Miscellaneous minor items.....	27,793.30
Total Admitted Assets.....		\$4,342,808.01

LIABILITIES AND SURPLUS

Claims Unpaid—	All claims are paid immediately upon receipt and approval of proofs of loss.....	None
Reserve for Claims in Process—	Company's estimate of the entire amount to be paid on pending claims upon which final proof has not been received.....	406,404.44
Reserve for Unearned Premiums—	Until premiums paid are fully earned, the entire unearned portion is held in this reserve.....	722,450.06
Reserve for Accrued Taxes—	A fund is set aside for the payment of State and Federal taxes incurred in 1951 but not due until 1952.....	105,044.33
Accounts Due and Accrued—	Commissions due agents and statements for current expenses not yet presented.....	57,711.70
Surplus to Policyholders—	Includes contingency reserves of \$250,000 and unassigned surplus of \$2,801,197.48 which provides an additional guarantee of all policy obligations.....	3,051,197.48
Total Liabilities and Surplus.....		\$4,342,808.01

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Threatened Cut in Homebuilding Materials Eased by Government

What began as a serious spat ended as a love feast between NPA and the building industry. Yielding after the strongest chorus of protest construction men have mustered yet against mobilization controls, NPA junked almost all of its proposed new restrictions on homebuilding. For commercial and public building, it loosened the yoke of controls in what officials hoped was time to prevent a large segment of construction from choking to death.

A month ago, NPA planners bent on carrying out their January warning that allocations of materials for housing would be cut 40% below the 1951 consumption (H&H, Feb. '52), proposed a set of rules that gave builders their worst fright since World War II. The proposals:

- A 1,500 sq. ft. limit on all housing.
- A flat ban against temporary, seasonal or portable housing (which would have balked HHFA's program for temporary defense housing in remote critical areas).
- A ban on more than 1½ bathrooms per house.
- A cut in self-certifiable copper to 25 or 30 lb. for houses using steel water pipe.
- Limitations on steel and copper use per square foot, and a ban on self-certification of Types K and L copper tubing for water systems.

At one point, NPA had the new rules written and ready to issue. Then HHFA Administrator Raymond Foley returned to Washington from a flood inspection trip with President Truman, angrily refused to agree.

With the aid of shrill protests from NAHB, mortgage bankers, savings and loan groups, and NPA's construction industry advisory committee, it took patient, plodding Foley and his aides three weeks to flatten NPA's plan.

In the end, all the cutbacks were tossed out except for a reduction in the amount of copper self-certifiable for one-to-four family houses using copper water pipe. That was trimmed from 160 to 135 lb. Builders breathed a sigh of relief.

Relaxation on copper. For copper, NPA even loosened the rules slightly. It would allow heavier sizes of tubing than previously permitted in cities where local codes require it for underground installation (see table, next page). For the first time, NPA permitted self-certification of aluminum for electric wire in homes. By writing the regulation to allow substitution of 1 lb. of aluminum for each 2 lbs.

of copper wire, NPA took one of its most effective steps so far to encourage the production and use of aluminum electric wire. Reason: 1 lb. of aluminum will actually do the work of about 3 lb. of copper. So builders who switch to aluminum wire should be able to build bigger houses. Moreover, NPA would make the aluminum deal retroactive, embracing houses already under construction. On top of that, the controllers agreed to let new homes with electric heating systems have an extra 15 lb. of copper.

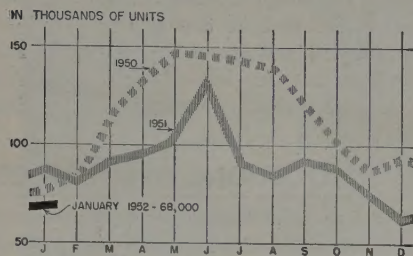
In tossing out the proposed outright ban on temporary, portable or seasonal houses (which would have flown in the face of the HHFA's \$25 million defense (temporary) housing program), NPA still declined to give such construction the privilege of self-certification. Temporary and seasonal housing might now be built without any special permits but builders would either have to apply to NPA for materials for each house or scrounge as best they can.

Because sheet metal ducts for warm air furnaces will shift from Class B to Class A on April 1, NPA had planned all along to hike the self-certifiable limit on steel for homes in the new housing order. Original plans called for a 350 lb. increase. In the end, NPA agreed to a 500 lb. boost. Builders will be free to use foreign and salvage steel in addition to self-certifiable allotments, but cannot use foreign steel consumption as grounds for demanding more copper or aluminum.

Industry approved. NPA's industry advisers—after a half year in limbo now treated with respect and deference by construction controllers—approved the housing order in final form last month. But the rules still faced legal flyspecking, would probably be issued this month.

There might be a few more minor changes. House alterations which increase the number of dwelling units (such as

HOUSING STARTS



Source: Bureau of Labor Statistics

PACE QUICKENED for housing in January as builders rushed to beat threatened tighter materials controls. Starts climbed to 68,000, or 10% more than December. Public construction zoomed from 1,100 in December to 3,200, way ahead of average. Private residential building perked up 6%.

partitioning of mansions) may be given the same allotment of self-certified steel, copper and aluminum as new construction. Up to now, alterations qualify for only 50% of the allotment for new building. For farm homes being reached by rural electrification NPA may permit wiring or plumbing to qualify for new construction allotments, instead of the half-allotment for alterations.

Break for nonresidential. The easier rules for heavy building would be issued probably a week later than the homebuilding regulation because the industry advisers were scheduled for one more look at the final version. But the principal provisions as outlined by NPA late last month gave the industry nearly everything it asked for. For nonresidential construction, self-certifiable steel would be increased from 2 to 5 tons per quarter. And 2 of the 5 tons could be structural steel (except wide flange shapes). NPA agreed to drop its ban on copper tubing for nonindustrial work, to grant allocations for entire projects at one time. Like homebuilders, nonresidential construction would be entitled to foreign and salvage steel in addition to domestic steel granted under CMP. More than industry howling led NPA to loosen construction controls. President Truman had ordered the U. S. arms buildup slowed down and stretched out a year longer (some presidential advisers tagged this the "yawn out"). And the plain fact was that steel—even some structural steel—was piling up in warehouses, while abundant offers of foreign steel to metal-hungry roadbuilders made restrictions against its use look silly. Unemployment was swelling among construction laborers in key nondefense cities like New York and Detroit.

Metal for all. For the second quarter, said Ass't Administrator Frank Creedon, NPA was able to provide controlled materials for ALL construction already

IN THE NEWS

Among the next 14 pages are reports on these important developments:

- Lumber bounces back from price dip . . . p. 50
- AFL pleads for industry unity . . . p. 51
- FHA valuations hamper defense homes . . . p. 53
- Congress studies mortgage troubles . . . p. 57
- Mortgage bankers demand interest hike . . . p. 59
- Cash deposit for Wherry Act bidders . . . p. 59
- Germes of a central mortgage bank . . . p. 61

begun, enough (counting advance allotments) to see it through to completion.

The agency also took its first step to encourage advance planning and engineering on projects that can be built later this year as steel grows more abundant.

NPA permitted 645 religious, municipal and community projects to lay foundations now, promised metal allotments by the last half of this year and first quarter of 1953. And NPA was still considering allowing freer use of light structural.

METAL ALLOCATIONS FOR NEW CONSTRUCTION

Quantities of controlled materials per dwelling unit which may be obtained by self-authorization for 1-through-4 family residential structures, commenced after March 1952.

Type of construction	Carbon steel Pounds	Copper & alloys Pounds	Aluminum Pounds
Structures using steel pipe water distribution system.	1,800	35	Aluminum may be used for conduction of electricity in place of copper on basis of 1 lb. of aluminum for each 2 lb. of copper allowed in the preceding column. In such event, the allowable quantity of copper is reduced accordingly.
Structures using copper pipe water distribution system.	1,450	135	
Structures using steel pipe for interior water supply pipes where local building code requires Type B or K copper tubing for underground water service connections.	1,635	80	
Structures using copper pipe water distribution system where local building code requires Type B or K copper tubing for underground water service connections.	1,450	145	Same as above.
Structures using sheet metal ducts for heat distribution.	In addition to the amounts of controlled materials allowed above, not more than 500 lb. of carbon steel per unit. In addition to the amounts of controlled materials allowed above, not more than 15 lb. of copper per unit.		
Structures using electrical energy heating systems.			

FOR CONSTRUCTION ALREADY STARTED

Quantities of controlled materials which may be self-authorized for one-through-four family residential structures commenced prior to March 1952. This table is not applicable to construction commenced after March 1952.

	Carbon steel	Copper & alloys	Aluminum
One-dwelling structures (using steel pipe water distribution systems).	1,800	35	Aluminum wire may be used in place of copper on the basis of 1 lb. of aluminum for each 2 lb. of copper allowed in the preceding column. In such event, the allowable quantity of copper is reduced accordingly.
One-dwelling structures (using copper pipe water distribution systems).	1,450	160	
Two-dwelling structures (using steel pipe water distribution systems) per structure.	3,500	65	
Two-dwelling structures (using copper pipe water distribution systems) per structure.	2,750	300	Same as above.
Three-dwelling structures (using steel pipe water distribution systems) per structure.	5,100	100	
Three-dwelling structures (using copper pipe water distribution systems) per structure.	4,100	450	
Four-dwelling structures (using steel pipe water distribution systems) per structure.	6,500	125	
Four-dwelling structures (using copper pipe water distribution systems) per structure.	5,200	575	

LUMBER PRICES rebound from fall slump as orders zoom

Last fall, lumber prices were mired in the deepest slump since pre-Korea days. With mills sawing wood faster than customers bought it, green fir dimension, chiefly used for house framing, sank as low as \$65 per 1,000' at West Coast mills. Douglas fir plywood (about 95% of all construction plywood) plunged from \$92.50 in October to about \$75 per 1,000' a month later (roughly double that at retail on the East Coast).

But January saw an upturn. Plywood orders poured in fast from buyers who correctly figured prices had reached bottom. January cutting soared to 803 million board ft., but orders were 114 million ft. higher. Douglas fir dimension, which waves in the slightest economic breeze, also rallied because bad weather produced log shortages and mill shutdowns.

By the end of last month, both plywood and fir manufacturers were merrily announcing a second round of price hikes. West Coast plywood mills boosted 1/4" A-D (sound one side) another \$5 to \$88. This put plywood within 10% of last year's peak price (near which OPS dollars and cents ceilings are set). Fir 2 x 4 dimension went up another \$5 to about \$77 wholesale. With eastern markets beginning to thaw for spring buying, orders still mounted faster than production.

General Rise? Though prices of most other building materials stayed on an even keel (and the Bureau of Labor Statistics reported a mid-January drop on plumbing and heating supplies in San Francisco, New York's Nassau County, Atlanta, and Boston), some experts were betting the 1951 plateau in building costs would not last much longer. Construction labor would demand and get wage increases this spring. And the multibillion military construction program alone, warned Smith, Hinchman & Grylls in its monthly cost report, "is enough to produce a marked rise in costs."

DIRECT LOANS: House votes VA \$125 million more funds

In an election year, it would be a brave congressman who cast his vote against veterans' benefits. Without a dissenting voice, the House last month whooped through a bill replenishing VA's authority to make 4% direct loans to veterans who cannot obtain home loans through normal lending channels. The Senate is expected to take similar action. The bill gives the VA \$125 million more to lend in areas where it rules that 4% private mortgages are unavailable with a ceiling of \$25 a quarter.

U.S. Chamber of Commerce Group Hears AFL Beg Building Industry to Unite

In normal times the U. S. Chamber of Commerce considers an attendance of 50 or 60 tops for a meeting of its Construction Industry Advisory Council. Last month, the building industry's concern over mobilization's squeeze on its livelihood brought out a record 170 top-echelon building men. They formed the nearest thing the schism-dotted construction world could muster to a central association. Their deliberations gave the building industry its most significant meeting of the new year.

Opening the session, Chairman Ralph Walker put his finger on what was on most participants' minds. "We are here," said architect Walker, "to try to act more like an industry." Speaker after speaker agreed that the building industry's best way of defending itself against mobilization cut-backs was a tighter central organization to speak loudly and plainly on basic issues.

Plea by labor. Most eloquent endorsement of this view came from venerable Richard J. Gray, president of the AFL Building and Construction Trades Department. Said Gray: "All segments of our sprawling, diversified industry should be awakened to the problems which now confront us. Labor should not stand alone—nor should the general contractors, the homebuilders, the specialty contractors, the heavy constructors, the developers and realtors, lumber interests and other material dealers and suppliers, or the banks, insurance companies and other lending institutions. I contend we are all part of the team . . ."

Specifically, the leader of 2 million building workmen proposed:

► A joint labor-industry group to "very vigorously protest" against "too drastic" second quarter cut-backs in steel, copper and aluminum allotted to construction.

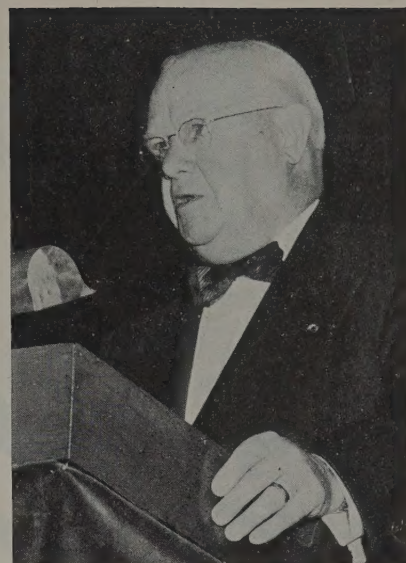
► A joint demand that "a screening committee composed of competent, practical men of labor, management and government be set up and given full authority to review and approve, modify or reject, in whole or in part, all requests for materials by these so-called defense claimant agencies, including all branches of the military." This was tantamount to telling listening mobilizers that they still haven't learned how to make the Controlled Materials Plan work and ought to abdicate. Said Gray: "I do not believe the (materials) demands of the military agencies are properly scrutinized. It is a well-known fact that military personnel are notorious for ordering three to four times as much as they will ever use."

► A joint study leading to a "uniform policy for the building industry" to prevent a collapse of construction volume in the post-defense period two or three years hence. Gray said he feared a repetition of World War II, when the construction industry hit a record volume in 1942, but was "only partially employed in 1944."

► "Perhaps our present co-operation will form a basis for top management and top labor to brush aside their differences and form a mutual assistance pact (to) examine the entire situation of government controls and above all, government participation in functions which rightfully and traditionally belong to private enterprise."

Neither Gray nor his applauding listeners forgot that differences between AFL labor and most of the building industry would be hard to reconcile. Gray conceded that one of the toughest would be public housing. While maintaining that "labor does not look with favor upon the federal government usurping the functions of free enterprise," he contended that labor has no alternative but to support public housing because private industry has failed to meet the need for low-cost homes. Gray was equally candid about labor's stake in free enterprise: "We do not relish the thought of having to carry on collective bargaining with the government."

Action postponed. The demand for stronger industry leadership found expression in a floor resolution by architect Howard Eichenbaum, of Little Rock, Ark., calling for transforming the advisory council into a common-front committee



RICHARD J. GRAY

which could speak more effectively for the nation's biggest industry.* Discussion disclosed, however, that the industry is not quite ready. Most organizations and professions still insist their own objectives are paramount. Even on basic general problems like public housing they tend to fall apart. Besides, as was pointed out by Secretary Stuart Fitzpatrick of the construction industry advisory council, there was no legal way in which the council could be converted into an agency that can commit building as a whole.

* Figures tabulated by the Associated General Contractors put 1951 construction of all kinds at \$39 billion, for the first time ahead of agriculture, which stood at \$37.5 billion.



CONSTRUCTION FORECAST for 1952 was given Chamber of Commerce meeting by Norman P. Mason, chairman of its construction committee (left, talking to Mobilizer Charles E. Wilson and Architect Ralph Walker). For homebuilding, Mason expected a drop of \$1½ to \$2 billion from

last year (15 to 25%), with starts somewhere between 800,000 and 900,000. For the entire industry, he predicted a \$25 to \$28½ billion year, called it "remarkable stability of activity considering the violence of the influences" at work in our national economy.



Kalman Klein, Builder



David Teicholz, Builder

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Samuel Paul, Architect

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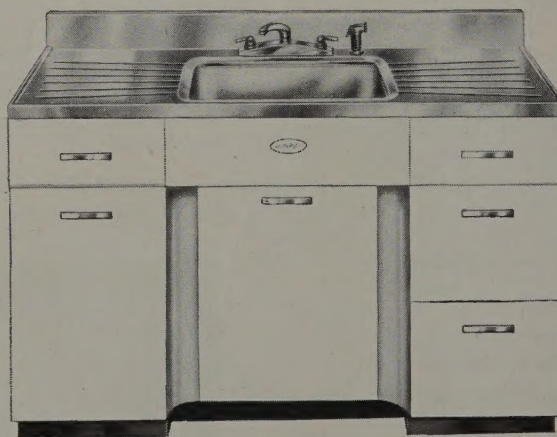
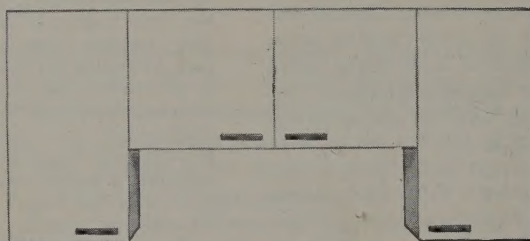
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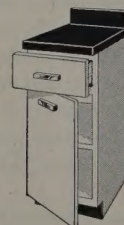
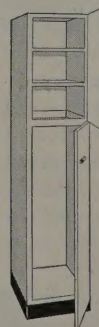
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TRACY MANUFACTURING CO., Division of Edgewater Steel Co., Pittsburgh 33, Pa.

Hughes he could do just that. Until he did, however, his project would have required \$85 a month rent under FHA capitalization formula—\$15 above the HHFA rent ceiling in Borger.

Another trail-blazing assault on FHA's valuation came in the Savannah River area. Upshot was that FHA abandoned capitalization valuation for Title 9 rental projects there, switched to an "amenity" basis. Builders said the change made the difference between housing being built and not being built.

Under capitalization valuation, FHA figures the worth of a rental house by subtracting operating expenses, taxes, insurance and vacancy reserves from rent, then multiplying 90% of the remainder by a factor calculated to produce a 6½% return on investment. But under "amenity" valuation, the agency figures the replacement cost of a sale house, its long-range marketability, its location, and current housing demand.

In a typical case, Knox Corp., building 300 Title 9 rental homes (1,000 sq. ft., intended eventual sale price \$9,775), found it was offered a loan commitment of only \$6,800 under the capitalization formula. After the switch, FHA's commitment jumped to \$8,800.

Why the change? Chief credit for blasting off the capitalization shackles apparently belonged to Gross-Morton, the Long Island builders (one of the nation's biggest) who so far were the only northern firm able to gain a building beachhead in the Savannah River critical area. Undismayed by the initial advice of South Carolina FHA Director Bailey (*see p. 63*) to "go home," Gross-Morton opened an office in Aiken, optioned land, began buying materials. Cannily, Vice President and General Manager Edward J. Dennis put up two pilot houses atop an out-of-the-way knoll. FHA valued them at \$10,000 for a Title II commitment (which thus became \$8,500). A few weeks later, when Gross-Morton sought a Title 903 commitment on 337 programmed defense units of the same house, FHA valuation on a capitalization basis produced a \$7,400 commitment!

In reply, Gross-Morton marshaled a formidable array of testimony given Congress by HHFA and FHA last year while the Defense Housing Act was under consideration. It offered a double-barreled argument:

First, the houses should be considered as "sale houses," because they would be sold after two years. (House Report No. 795.)

Second, if FHA clung to its capitalization approach, it should be guided by documentary evidence of actual, not theoretical,

DEFENSE HOUSING BOX SCORE

On Feb. 13, HHFA tabulated the status of its defense housing program as follows:

Units programmed	70,100
Units applied for	222,490
Approved	60,184
Started	6,636
Completed	876

operating costs. Moreover, it should permit a 3% vacancy allowance, envisioned in an example submitted to the Senate by FHA, rather than 7%. Reason: Gross-Morton would offer its three-bedroom houses for \$75 a month, \$10 under HHFA rental ceilings in Aiken. After Gross-Morton took its case to Washington, FHA relented, hiked the valuation to a workable \$9,000.

No precedent. Although Ass't FHA Commissioner Curt C. Mack said last month that as far as he knew the Gross-Morton and Hughes cases were the only valuation problems throughout the nation, reports to NAHB's 77-member defense areas committee indicated the trouble was more widespread. Sample:

From Dover, Del.—"HHFA criteria under which allocations of defense housing units are made require in some instances approval of sites near military depots where the location is entirely rural, and where the FHA applies Section 203 concepts of mortgage financing (the basis for Title 9 valuation) it produces an available mortgage amount so restricted as to be unusable."

Mack left whether defense housing would undergo capitalization or amenity valuation up to FHA's 72 "autonomous" district offices. The choice rests on whether the local office rules that a defense housing site is predominantly a rental or an owner-occupied residential area. But either way, Gross-Morton and Hughes had showed builders throughout the country how to grapple effectively with one of the trickiest technical problems of defense housing construction.

RENT CONTROL ended by three towns in critical areas

One of the trickiest questions bobbing up in the defense housing program is whether to tighten up Regulation X again if local pressure forces abandonment of rent controls that usually accompany critical area designations.

Congress paved the way for confusion by providing for imposition of complete rent ceilings on both old and new (since Feb. 1, 1947) housing in one law and for all the housing construction aids in another. But mobilizers say if rents are decontrolled again in a defense area

through state or local action, it obviously raises a question whether the shortage of housing and amount of rent gouging are still severe enough to warrant continued special inducements to build more homes.

By last month, the full rent control program had been imposed on only 94 of the 139 critical defense areas. Three of these had overthrown it.

► Temple, Tex. was decontrolled Dec. 20 after local landlords squawked that homes were being offered at rents lower than the rollback ceilings. (Under the law, Rent Stabilizer Tighe Woods must nearly always approve local votes for decontrol, but there is nothing to prevent him from reimposing rent lids again the next day.)

In the Temple case, Woods accepted the local verdict. Temple was one of three towns inside the critical area surrounding Fort Hood. But all of HHFA's programmed housing lay in the other two, Florence and Killeen. And they remained under rent control.

► Lorain County, Ohio, yelled so loud at full rent controls that Mobilizer Wilson and Defense Secretary Lovett officially removed them Feb. 18. Here, HHFA took the view that since rents were removed by Washington officials, the housing program need not be reshuffled.

► In Ventura, Calif., the city council voted 6-0 to rescind full rent controls imposed only the month before. From a roomful of spectators came not a single voice of opposition. Decontrolled Ventura (pop. 17,500) would be an oasis surrounded by still controlled county territory and five other towns. Within 20 miles of Ventura lie the Navy's Port Hueneme and Point Mugu and Oxnard Air Force Base, which is being reactivated.

Amid such signs of disaffection, HHFA administrator Foley issued a discreetly worded warning: if localities kill rent controls, the government will "review the facts to determine if a need any longer exists for special housing aids including relaxation of credit controls."

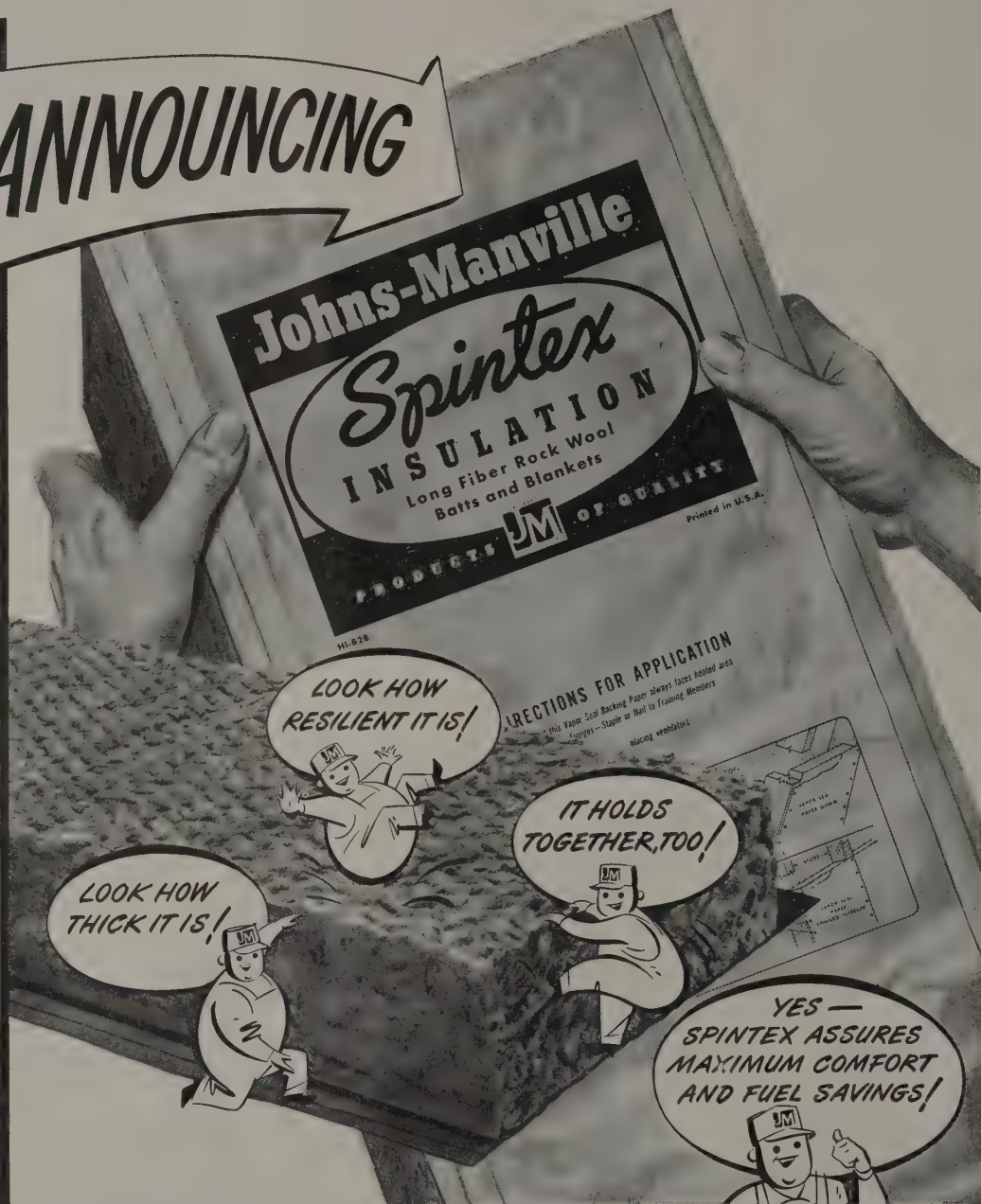
DEMOUNTABLE HOMES: bids from 25 firms encourage HHFA

"We couldn't ask for a better start than this," said HHFA's Ralph Kaul last month. Nearly 25 prefabbers, operative builders and trailer coach makers (from 14 states scattered throughout the U. S.) had responded to his invitation to submit plans for *permanent, but demountable and portable*, defense housing (H&H, Feb. '52).

Some of the proposals were even better than Kaul had hoped. One called for a 721 sq. ft. two-bedroom home generally meeting FHA Title II standards. The price: only \$5,600 (not including the site), with an estimated cost of \$1,000 to redeploy it 100 miles. Another called for a three-bedroom house for \$8,250.

After HHFA architects and engineers study the plans, the agencies will award contracts to somewhere between five and 12 firms to erect a pilot model of their permanent demountables, then tear it down, move it 100 miles and rebuild it.

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Nate Fine

SENATE BANKING COMMITTEE round-table hearing on financing defense housing brought together 16 of the nation's top lenders, eight top government housing and finance officials, plus 13 other homebuilding and labor leaders. Their three days of give-and-take discussion gave Congress 134 pages of printed testimony to mull over. Pictured (starting bottom right hand corner, counter clockwise): John J. Scully, vice president of Chase National Bank, New York; George L. Bliss, president of Century Federal Savings & Loan Association, New York; Chairman William K. Divers of the Federal Home Loan Bank Board; VA Loan Guaranty Chief T. B. King; MBA President Aubrey Costa; W. A. Clarke, Philadelphia mortgage broker; John G. Jewett, vice president of Prudential Insurance Company of America,

Newark, N. J.; NAHB President Alan Brockbank; Armed Forces Housing Chief Tom Googan; Harry Held, vice president of Bowery Savings Bank, New York; Norman Carpenter, vice president of Metropolitan Life Insurance Co., New York; Ehney A. Camp, vice president of Liberty National Life Insurance Co., Birmingham, Ala.; Ward A. Smith, NAREB; Devereux C. Josephs, president of New York Life Insurance Co., New York; FHA Commissioner Franklin D. Richards; HFA Administrator Raymond M. Foley. Seated around horseshoe table (counter clockwise): Sen. Irving M. Ives (R, N. Y.); Sen. John W. Bricker (R, Ohio); Sen. Burnet R. Maybank (D, S. C.); Staff Director Joseph P. McMurray; Sen. A. Willis Robertson (D, Va.); Sen. John J. Sparkman (D, Ala.); Sen. J. Allen Frear (D, Del.).

Senators Ponder New Aid For Defense Housing Mortgages

To a Senate hearing roomful of 16 of the nation's leading mortgage lenders, Chairman Burnet R. Maybank of the Senate Banking Committee last month fired a pregnant question: how many were making their own Title IX defense housing loans at FHA's present 4 $\frac{1}{4}$ % interest?

Not a single hand went up.

Then where was the money coming from to finance defense housing? For three days, the committee sought answers by the novel method of a round-table hearing with all 16 of the lenders plus top brass of government housing and finance agencies as participants. As usual, the experts disagreed with each other heartily.

Builders willing. As a kickoff, NAHB President Alan Brockbank declared flatly that builders are ready to tackle the defense housing job but are being held back by a tight money market and lack of utilities. "Give us the money, some way or other," he pleaded, "and we will build the houses."

Lender spokesmen directed their thrusts at three weaknesses they saw in the government's program: 1) many critical areas were far off the beaten mortgage financing path; 2) FHA pay-off procedure in Title IX mortgage insurance should be made more attractive; 3) both FHA and VA interest rates were pegged at an unrealistically low level.

As President Aubrey Costa of the Mortgage Bankers' Association phrased the lenders'

dilemma: "We have a number of areas with which we have not become familiar. What happens if expanded military activities in such places become deactivated in the course of, shall we say, two or three years?"

Lend or else. Senator Robertson (D, Va.), whose views are usually right of center, reminded Costa of the stake lenders have in "the preservation of the private enterprise system." If they hold back in critical areas, "they can have no objection to the government going in and erecting the houses," he snapped.

Fully cognizant of the need for financial co-operation on the part of insurance companies and banks, Costa nevertheless felt that the government has not done all it could to induce such participation. His suggestion: an increase of $\frac{1}{4}$ % in the debentures with which FHA settles its claims. These now carry a 2 $\frac{1}{2}$ % rate. Agreeing that better FHA settlement terms would give the program a lift, Vice President Harry Held of Bowery Savings Bank of New York called attention to another handicap in far-flung mortgage investment: "When we get outside of our own territory

we are faced with the problem of having to pay an additional service charge of $\frac{1}{2}$ of 1% which in effect reduces the yield on our mortgages."

Fed opposes FNMA. Inexorably the discussion gravitated toward frank talk on interest rates (See "Rigid Interest Rates Won't Work," p. 122). Chairman William McChesney Martin of the Federal Reserve Board urged "flexible interest rates," added that a hike in FHA and VA interest would *not* be inflationary, although any increase in Fanny May Funds or direct VA lending funds would be.

Private finance men were less diffident. said Vice President Ehney A. Camp of the Liberty National Life Insurance Company: "In my opinion, the interest rate is the most important single factor." Chase National Bank's Vice President John J. Scully professed an inability to fix the decimal point at precisely the right place. Said he: "That is going to be a matter of investment and competition from other investments to determine. I do feel that a higher rate certainly would arouse a great deal more interest in this type of financing, and probably would bring the money into the mortgage market."

Variations of the same theme were presented by most—but not all—of the private lender spokesmen. Vice President Robert E. Morgan of the Boston Five Cents Savings

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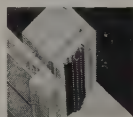
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Bank had reservations whether an interest rate hike would do the trick. His view: "The problem is one of security rather than rate alone." W. A. Clarke, Philadelphia mortgage banker and former Federal Reserve consultant on real estate loans, summed up the case for the advocates of higher rates by arguing an increase to 4½% for FHA and VA loans.

"The entire problem can be cleaned up between now and tomorrow morning if the committee would instruct the housing officials to make the increase," he contended. As Clarke pointed out, under existing law the housing agencies have power to raise the rates to this level, but a suggestion from the congressional committee would carry no weight.

FHA stands pat. As expected, FHA Commissioner Franklin D. Richards was not ready to concede that an interest boost was the only way to put more starch in the program. As he saw it, the financing trickle would become a steadier flow as lenders became more familiar with Title IX, disabused themselves of the impression that it was so much more risky than Title II. He believed there were signs that this was happening.

The debenture yield he called a minor problem because so few loans go sour. (Only 1% of FHA's Section 603 loans went through the wringer.) Richards asserted Title IX was less risky than Title VI because under the new law the FHA must give more weight to continued marketability. He also took exception to comments that new "ghost towns" were being created. In all areas around military bases where private building is being recommended, he said, the agencies involved have been "ultraconservative" about long-range demand.

Legislation upcoming. After it was over, the committee was still not sure where the answer lay. Senator Sparkman (D, Ala.), chairman of the banking committee's subcommittee on housing and rent control, was unwilling to clarify a few of his thoughts: "We are going to have to do some more legislating," he admitted, "but we are not going to be able to carry along on FNMA prior commitments on all this Title IX housing." The burden of much of the testimony had been that the only way out was a whopping big increase in the FNMA's financing war chest plus a renewal of its authority to issue advance take-outs. One thing that Sparkman thought might help in the light of statements by lenders was to find some way of putting more emphasis on the security element of Title IX housing.

Another suggestion tossed into the committee's lap: discourage residential con-

struction in nondefense areas by restoring credit restrictions in full vigor. Advocates of this backhanded approach—and they included powerful elements on the committee—believed that by thus narrowing the outlet for mortgage investment, lenders would be more willing to support the defense housing program.

VA MORTGAGES: repurchase plan may help free sales jam

For months, builders and mortgage brokers had struggled in vain to persuade VA to permit lenders to charge builders for the 3 to 6% discount necessary to sell VA mortgages in the secondary market. To assorted but similar schemes, VA replied with a firm "no": there was too much chance the extra cost would be passed along to the house-buying veteran.

Last month, the Mortgage Bankers Association finally wangled the consent of VA Loan Guaranty Chief T. B. King to a complex repurchase system which it hoped would work nearly as well as the spurned discount plans:

A builder can guarantee to buy back his VA mortgages from a lender at par on demand, if the lender is unable to sell them at par (with a reasonable ½% servicing fee) in the secondary market after four or more months of trying. To guarantee the repurchase, lenders may require a builder to put up a 6% deposit, forfeitable if he does not buy the mortgages back when asked to.

In authorizing the plan, King made two significant stipulations:

- ▶ Builders must have the *right* to buy back the loans at par or below while the originating lender is holding them.
- ▶ The agreement must bar the lender from

selling the loans to anyone but the builder at less than par before the four (or more) month period expires. He also made it clear VA will keep a wary eye out for fraudulent repurchase agreements.

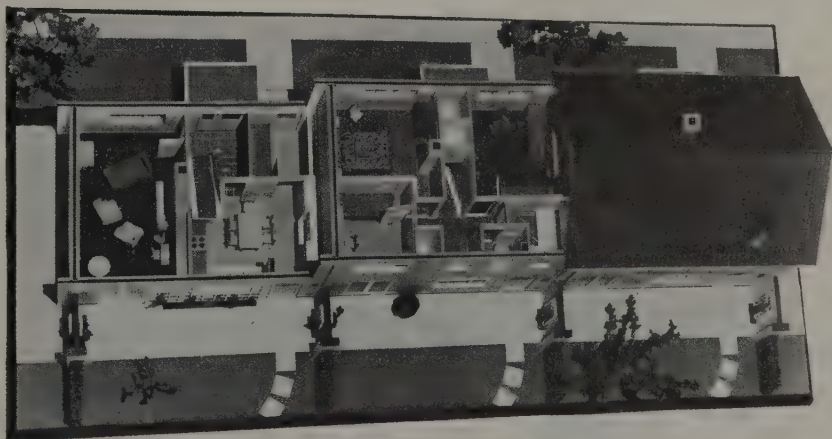
WHERRY ACT bidders now must post \$25,000 performance bond

One of The Pentagon's bigger problems in Wherry Act housing had been irresponsible bidders. There were peddlers who bid low to get a job only to subcontract the work. Other shoestring operators would sometimes fiddle around for months and then announce they could not actually build the project, after all.

Last month, the Armed Forces new housing chief, Builder Tom Coogan, announced he had the problem licked. Henceforth, Wherry Act bidders will be required to post a \$25,000 certified check with each bid as a performance bond. The government will return checks of losing bidders.

INTEREST RATE boost for VA, FHA loans urged for bankers

At its midwinter conference in Chicago last month, the Mortgage Bankers Association for the first time formally endorsed an increase in VA and FHA interest rates. How much they should go up MBA did not say. It also gave formal backing to President Aubrey Costa's recommendations that FHA raise the interest rate on debentures which are exchanged for foreclosed real estate from 2½% to a rate which will guarantee their sale at par, and that improvements be made in "waste" provisions of loans. FHA Commissioner Richards said noncommittally he is "considering" the debenture and waste changes.



BRITISH HOUSING: Tories offer economy design to boost output

Housing shy Britain still suffers from severe shortages of steel, labor and building materials. So, in new designs for its "People's Houses" (model above), Britain's Tory government clipped an average of 100 sq. ft. off circulation area of the typical postwar council housing. With the economy design (847 sq. ft. for two bedrooms), plus easing of rigid Labour controls on materials and restrictions on private building, Housing Minister Harold Macmillan hopes to boost 1951's 200,000 homes to 300,000.

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Private Central Mortgage Bank, Long Industry Goal, Gets a Shove Forward

Federal National Mortgage Association has been both the delight and the despair of homebuilders and realtors in the construction boom since World War II.

By successive acts of Congress Fanny May obtained authority to pump up to \$2.75 billion of U. S. Treasury funds into home buying in a manner that had the same effect as, but avoided the onus of, direct lending by the government. Instead Fanny May bought government insured or guaranteed mortgages originated by private enterprise lending institutions. It now holds some \$2 billion worth.

Multiplied funds. The delight of most realtors, builders, and lenders was that this system gave an institution the use of its funds several times over, in effect, thus assuring easy financing for the six million new dwelling units started since 1946.

The despair was that the fountain sometimes ran dry. Fanny May would get loaded to the limit of its purchase authorizations. Then almost everyone would have to mark time for an uncertain period until Congress authorized it to carry a still larger portfolio. Worse, as demonstrated when the first credit restrictions were imposed just after the fighting began in Korea, the government that turned on the easy money tap could also turn it off.

Push for change. Such government control, more than the government's large-scale indirect lending, more and more troubled many private enterprise leaders in the field. Periodically, for instance, the National Association of Real Estate Boards passed resolutions proposing legislation for a federally-chartered but *privately-owned* central mortgage discount bank that would ultimately replace Uncle Sam's Fanny May. To NAREB, this was the "long-range" solution to recurring shortages of mortgage funds for financing real estate and construction. Said NAREB: "Such a central bank could sell bonds or debentures to the public, secured by the mortgages it buys, thus drawing on public savings up to 20 times its capital and reserves. If such a bank were started now with capital stock of \$100 million, it could do \$2 billion in mortgage business. We should not wait or government to make the first move whenever there is shortage of mortgage funds or any difficulty in the real estate field." At the realtors' last annual convention in November there was a new twist, instead of urging a new private enterprise institution; the realtors recommended that Fanny May itself "be transferred from

government to private ownership and control."

Whether the new institution contemplated by NAREB will become a reality in the foreseeable future seems rather uncertain. Large insurance companies have been unsympathetic, if not disapproving, of the idea—lest it minimize the important influence that they may be able to exert in the secondary mortgage market at some periods because of their size. Moreover, some feared steps to form a central mortgage bank might arouse the Justice Department's antitrust investigators.

Step toward a goal. More down to earth than the realtors, the National Association of Home Builders started to tackle the problem on a small scale, but in a real way, about a year ago when it sponsored Housing Securities, Inc. under the presidency of Tom Coogan. Housing Securities is only a packaging, very temporary "warehousing" and clearing house operation, not a mortgage lending institution in itself. But its objectives, in general, are *similar* to many of the services a central mortgage discount bank might render and *away* from the uncertainties of dependency on government agencies.

Spreading idea. From these germs, the central mortgage bank idea this winter gave signs of spreading to a far more potent financial factor. The Federal Home Loan Bank System—now privately owned by its savings and loan and savings bank member institutions—seemed to be abstractly toying with the idea of assuming a much more important role as a central mortgage discount bank, and perhaps eventually replacing Fanny May.

In 1933 the Treasury provided the origi-

nal capital to start this reserve bank system for home financing institutions. By last year the entire sum had been repaid to the government by the system's district Home Loan Banks in leading cities.

The New York Home Loan Bank, which has over 400 member institutions in New York, New Jersey, Puerto Rico and the Virgin Islands, recently established an informal clearing house system to help members buy or sell government guaranteed or insured mortgages among themselves. "And under a new plan on which we are now working," President Nugent Fallon told a recent real estate conference, "it is believed any surplus mortgages in this area can be placed country-wide."

Trial balloon? Late in January President William K. Divers, of the Home Loan Bank Board, told the annual meeting of the Savings Association League of New York that he would like to "toss out a few ideas for thought and discussion." So far, he said, his bank system had not served as quite the "equalizer" of mortgage credit among the different areas of the country that had been contemplated when it was established in 1933. But he noted recently many institutions had reacted very favorably to action by the board authorizing its district banks to serve as intermediaries in arranging the sale of mortgages among member institutions. (Other sources reported cross-continent activity in interbank sales.)

Did such little signs foreshadow absorption of Fanny May by the Home Loan Bank System? Might the Home Loan Bank ultimately become a full fledged central discount bank with the additional power to buy and hold a nationwide home mortgage portfolio of its own? Not *now*. But such a road would seem to be open without serious legal obstacles if the system's officials decided to move boldly ahead.

As Divers also pointed out, institutions embraced by the Home Loan Bank System (mostly the savings and loan associations) accounted for one-third of the nation's \$6 billion increase in savings during 1951. The pressure to reinvest this swelling volume of money could help produce more steps along this road—either by plan or by happenstance.

Another official nudge came last month from VA Loan Guaranty Chief T. B. King. Defending his refusal to raise VA's mortgage interest rate above 4% ("it would improve the market but it would not do the job of serving all areas and all the outlying places"), King urged the Mortgage Bankers Association to concentrate on establishing a central mortgage bank. The idea is a challenge, King said, and if carried out could put Fanny May out of business.

FNMA OPERATIONS

Latest operations report by Federal National Mortgage Association, which might be eclipsed if a private central mortgage bank were formed, shows lenders dumped 9,956 mortgages worth \$77 million into FNMA's lap during January, a busy month.

	JAN., '52	DEC., '51
Purchases—over-the-counter ...	\$77,000,000	\$60,000,000
—from commitments..	—	—
Sales	4,000,000	3,000,000
Repayments and other credits	6,000,000	6,000,000
Commitments cancelled	7,000,000	—
Gross authorizations	2,750,000,000	2,750,000,000
Advance commitments		
outstanding	237,000,000	239,000,000
Mortgage portfolio	1,916,000,000	1,849,000,000
Available for purchase of		
additional mortgages	598,000,000	661,000,000
Programmed defense and		
military housing mortgages	396,000,000	396,000,000
Housing in disaster areas	16,000,000	16,000,000
Other eligible mortgages..	186,000,000	249,000,000



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PEOPLE

Last December, Sen. Richard Nixon (R, Cal.) asked FHA Commissioner Franklin B. Richards: "Has the FHA ever had occasion to send an investigator to South Carolina to look into the purported corporation associations between Leonard D. Long (the state's biggest builder) and **Herman E. Bailey**, South Carolina FHA director?" On Feb. 29, Leap Year Day, FHA announced it was "accepting" the resignation of its South Carolina director. It was the end of an era. "Judge" Bailey had been holding court since the FHA opened up 17½ years ago. For the past year, out-of-state builders have charged the Judge with reserving FHA commitments for his in-state friends. Now Bailey is switching to private business and his chief underwriter, W. Withers Adickes, will take over.

Attaining the nirvana all good builders pine for, Long Island's **Louis M. Barkan** last month was awarded a plaque at a Waldorf-Astoria ceremony by the people who had bought his houses. The tribute was for Barkan's 117-unit Catalina ranch homes project in North Bellmore. The houses, designed in six variations by architect Samuel Paul, cost \$16,290. Said the grateful buyers: "In appreciation of his unusually sympathetic understanding of the problems of new home buyers and his willingness to serve their interests beyond what is normally expected."

Rushing in where society feared to tread, Cleveland real estate broker **Thomas W. Miller** bought the 25-room mansion and walled acreage of the late Al Capone on Palm Island, the elegant winter spa area between Miami and Miami Beach. The estate's replacement cost has been estimated at \$250,000 but Miller paid Capone's widow \$64,000. "You can just say I stole it—you couldn't build the swimming pool alone for that." After occupying the manse "long enough to take the Capone curse off of it," broker Miller expects to sell out at a profit.

Named: As governors of the Federal Reserve Board, **Abbot L. Mills, Jr.**, 33-year-old executive vice president of the U. S. National Bank in Portland, Ore., a Republican, and **James L. Robertson**, 44, first deputy controller of the currency, a Democrat; **Jack F. Burns** as the \$19,000-a-year executive secretary of the Cleveland Building Trades Employees Assn. Burns'

job up to now: president of Cleveland's (AFL) Federation of Labor and business agent of the local Building Trades Council; **Maj. Gen. Thomas F. Farrell**, AEC general manager and former chairman of the New York City Housing Authority, as managing director of Aro, Inc., the private concern managing the U. S.'s Arnold Engineering Development Center at Tullahoma, Tenn.; **Huson T. Jackson**, assistant professor of architecture at Pratt Institute, and **Addison Erdman**, New York architect, as winners of 1952 Brunner Scholarships; **Stewart Pike**, of Philadelphia, as 1952 president of the Industrial Designers Institute; **Walter Young**, as acting chief of FHA property requirements, succeeding **Chris Christenson**, who joined NAHB as associate director of technical service and research; **W. D. Robinson**, president and general manager of the Briggs Manufacturing Co. of Detroit, as his plumbing firm's board chairman.

Died: **R. Earl Peters**, 65, long-time Indiana Democratic Party leader and, until fired in mid-January, his state's FHA chief, Feb. 18 in Coral Gables, Fla.; **Col. H. T. James**, 101, a leader in the rebuilding of San Francisco homes after the 1906 earthquake and builder of many of New York's brownstones, Feb. 12 in Van Nuys, Calif.; **W. Kingsley Utteridge**, 56, State Dept. designer and former FHA art director, Feb. 11 in Washington, D. C.; **Leicester B. Holland**, 69, chairman of the department of architecture at Miami Uni-

versity, Ohio and former head of the Congressional Library's fine arts division, Feb. 7 in Philadelphia.

Clarence C. Zantzing, 79, last month became the fifteenth architect to be elected to America's exclusive (250 members)



National Institute of Arts and Letters. Philadelphia-born, Yale-educated Zantzing designed the Detroit and Philadelphia art museums, the Department of Justice building in Washington, Yale's administration building, dormitories for Princeton and the University of Chicago, hospitals around his Chestnut Hill, Pa. home. He is a past AIA vice president, former head of the Pennsylvania State Art Commission.

Ex-NAHB president **Fritz Burns** decided 11 years without a vacation was too long. He and his wife closed up their Los Angeles home and boarded the Matson liner *Lurline* for Hawaii late last month. As soon as the *Lurline* docked, Burns's rest really began—in Honolulu's St. Francis Hospital where he had his appendix out.

Indulging himself in a special kind of triumphal tour, **Frank Lloyd Wright**, accompanied by his wife, will visit Paris next month for a well-heralded exhibition of his works at the famed Beaux Arts.

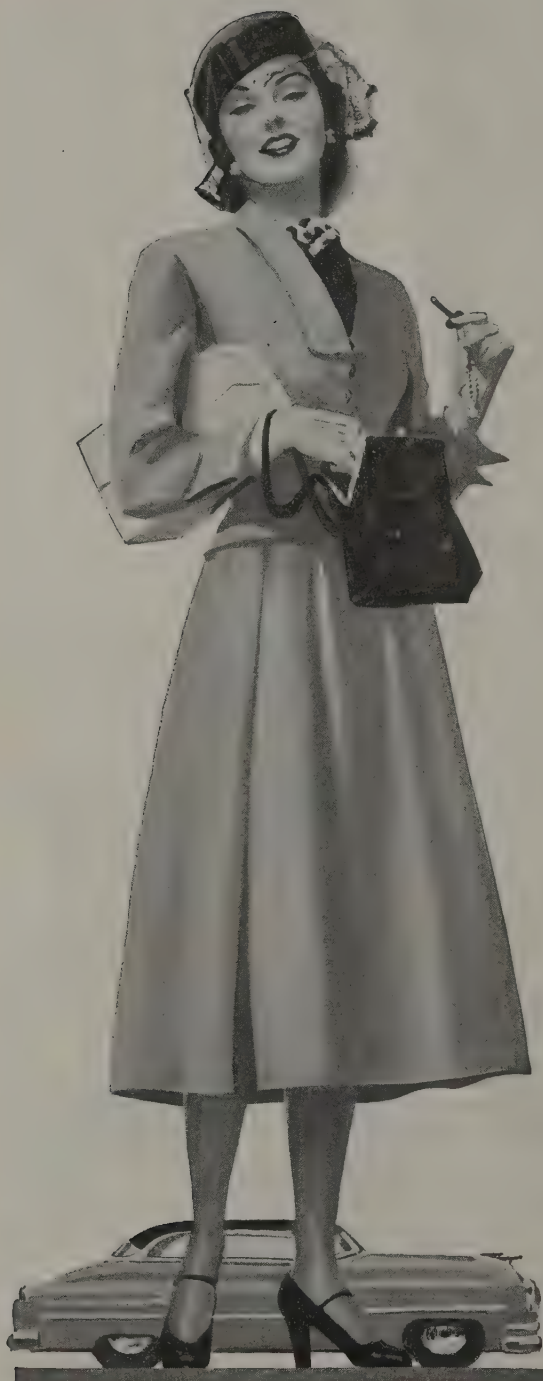


BUTTERFLY ROOF designed to outwit Columbia River basin climate

On the high plains of Washington's Columbia River basin, where some 13,000 farmers are expected to settle on land newly brought under irrigation by Coulee Dam, the fickle climate ranges from severe winter snow and ice to searing, moistureless summer heat. AIA's Washington State chapter undertook to design an "ideal" ranch home for immigrants, hoping to help discourage unwise investment in "temporary" quarters in garages, sheds and shacks. Washington State College architects Paul Hayden Kirk, Victor Steinbrueck, John Morse, Albert Baumgartner and Robert Huges held a series of shirtsleeve meetings with prospective tenants. Last month, they brought forth their plan (above). Chief attention-getter was its butterfly roof. With the house warming the roof

in the winter, the architects expect that ice, instead of forming on the eaves and causing leaks, will melt and funnel harmlessly down a center drain. In summer, the hot air which rises to the high point in any house will seep out the top of windows along the roof's perimeter. Sprinkler pipes atop the roof will offer further cooling.

First house is to be built in one day on March 29 near Moses Lake and then given, along with 80 acres, to a lucky veteran. The slab floored, expandable house is designed to be built in three sections: a 750 sq. ft. living core, a bedroom and a work area wing. The core will cost \$7,500 to \$9,000, the whole 1,500 sq. ft. house \$19,000 including \$500 for the sprinklers on the roof (built-up composition over plywood).



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The warm, earthy colors of Mosaic Carlyle Quarry Tile—as illustrated on the opposite page—are wonderful to live with; never fade or lose their "just new" look! And, this type of Mosaic Tile is virtually indestructible, impervious to dirt and moisture, and easy to clean.

Use Mosaic Carlyle Quarry Tile indoors and out! For recreational rooms, entranceways, porches, breezeways, terraces and walkways! Choose from standard surfaces, in ten modern colors, or from 5 "non-slip" types—Abrasive Surface, Abrasive Body*, Corduroy, Diamond Face and Safety Tread!

For quick facts, contact our nearest office. For helpful literature on the many other types of Mosaic Tile, write Department 29-8, The Mosaic Tile Company, Zanesville, Ohio.

**Abrasive Body is available in one color only—Navajo Red.*

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Detroit 34, Michigan
20230 Sherwood
Phone: Twinbrook 3-1254

Hollywood 38, California
829 North Highland Avenue
Phone: Hillside 8238

Little Rock, Arkansas
1709 East 9th Street
Phone: 5-7251

Miami, Florida
7250 N. E. 4th Street
Phone: 89-4329 & 89-8812

New York 17, New York
101 Park Avenue
Phone: Murray Hill 3-2768

Philadelphia, Pennsylvania
6229 West Girard Avenue
Phone: Granite 4-7116

Portland 14, Oregon
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Phone: Fillmore 3717

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Phone: 9-8285



Architect: James F. Eppenstein, Chicago

Bright Solutions to problems in division

When you divide—you can give both rooms an added touch of beauty with panels of Blue Ridge *Patterned Glass*. This glass makes both rooms brighter—for it passes light through while guarding privacy.

Always smart and new-looking, Blue Ridge *Patterned Glass* is economical to use. No refinishing costs, either—the wipe of a damp cloth keeps its sparkling beauty.

More than 20 patterns give your imagination room to roam—linear, textured and checkered patterns—patterns of pronounced design or with over-all soft diffusion. Ask your L·O·F Glass Distributor to show you samples.



Architect: Roche & Roche, New York



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Architect: Frederic Barlenbrock,
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Please send me your idea book: *New Adventures in Decorating* for residences.

Name (please print) _____

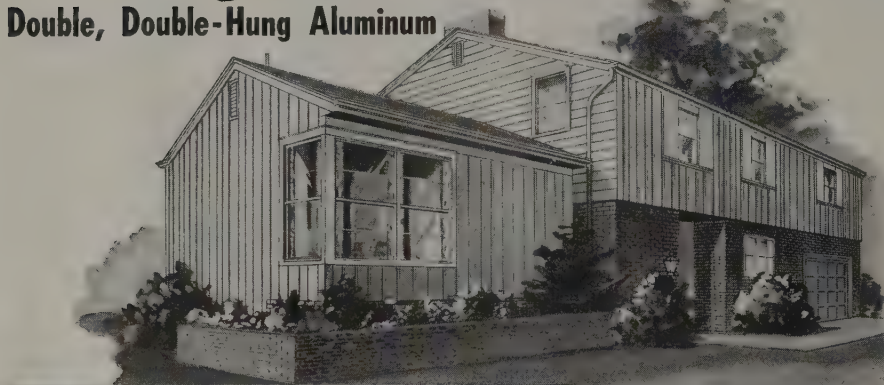
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THIS BEAUTIFUL NEW HOME HAS AMERICA'S FINEST WINDOWS

Fleetlite

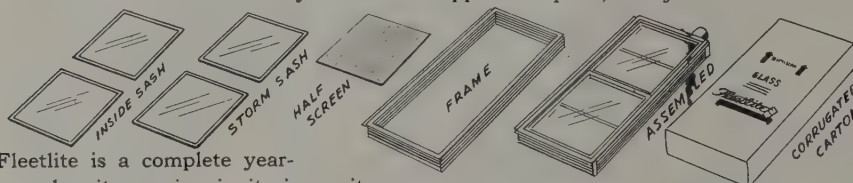
Double, Double-Hung Aluminum



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They appreciate the freedom from the chore of removing, storing and reinstalling storm sash and screen. They like the way Fleetlite sash snap out for cleaning. For warmer winters and cooler summers.

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LETTERS

VOLUME 1, NUMBER 1

Sirs:

Congratulations on your new HOUSE & HOME magazine. I think your idea of separating the unrelated types of architecture is exceedingly sensible and is a very interesting departure from what formerly existed.

GARDNER A. DAILEY, *Architect*
San Francisco, Calif.

Sirs:

Congratulations on the format of HOUSE & HOME. It is a most welcome publication and will be well received by the industry.

E. M. SPIEGEL
National Association of Home Builders
Washington, D.C.

Sirs:

The January issue of HOUSE & HOME is both interesting and informative and a great contribution to the industry.

DAVID D. BOHANNON,
Community Developers, Realtors
San Mateo, Calif.

Sirs:

Those of you who conceived and promulgated your new publication HOUSE & HOME obviously had a thorough understanding of the type of information the builder, homeowner and realtor find educational and extremely interesting.

CARL C. BROWN, *Realtor*
Birmingham, Ala.

Sirs:

Congratulations upon your magazine HOUSE & HOME. We are very much impressed both with the magazine and its contents.

WILLIAM E. WEBB, *Treas.*
Metropolitan Savings & Loan Assoc.
Kansas City, Mo.

Sirs:

HOUSE & HOME certainly is lively, good looking and impressive. I congratulate all of you on a distinctive performance. Your new cover seems to strike a superb balance between the decorative phase and the utilitarian phase. It's one of the best looking and best performing covers I've ever seen. You're away to a grand beginning. Nice going!

WILLIAM K. BEARD, JR., *Pres.*
Associated Business Publications
New York, N. Y.

Sirs:

You have done a wonderful job with your first issue. It is a really thrilling edition.

WALTER DONNARUMA, *Pres.*
Pilgrim Garden Homes, Inc.
Kingston, N. Y.

Sirs:

I've been had, bilked. You sold me a subscription to a magazine that was supposed to appeal to builders, architects, and others seriously interested in the building and realty business. Instead you send me a lousy, glossy

(Continued on page 72)

New Coleman HEATER-IN-WALL installs easily in small homes

Automatic—

*takes no room space—
cuts building costs.*

Makes homes easier to sell



THE COLEMAN GAS WALL HEATER is especially designed for small homes, apartments, upstairs or basement rooms, for motels and tourist courts and other small construction. Takes no basement, no excavating, no air ducts, no major installation. Quick and easy to put in—a simple vent job is all that's needed to finish up.

SAVES SPACE—It extends less than four inches into the room from the wall, so takes no living space. Ideal for slab-floor construction because there's no ripping up floors. Attractive in any setting, it has modern styling and smart Hammerloid neutral

tan finish that harmonizes anywhere. Safe with children. And the Coleman name assures ready acceptance, making sales easier.

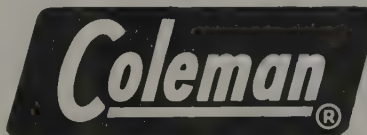
THREE COST-SAVING MODELS—Coleman makes two Single Wall Models, one 25,000 BTU input (fitting between center studs), one 35,000 BTU input for greater warm air flow. The Dual Wall Model has 45,000 BTU capacity. Manual or non-electric controls without costly electrical installations. Solve your low-cost heating problem with Coleman Gas Wall Heaters. The Coleman Company, Inc., Wichita 1, Kansas.

DUAL WALL MODEL

fits in wall or partition and heats adjoining rooms at the same time. Warm air flow into both rooms is easily adjusted on one side. Easy to install, automatic in operation, a complete, safe and economical heating unit.



Comfort costs so little with a



America's leader
in home heating

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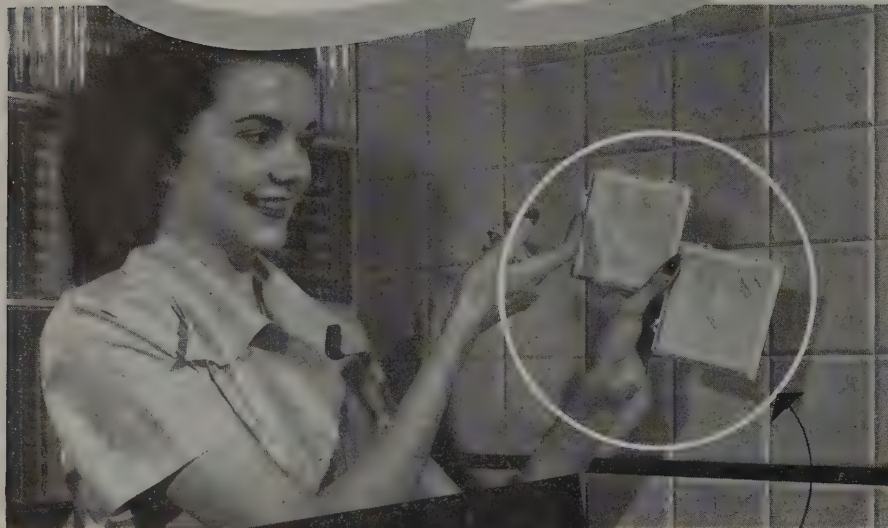
The Coleman Company, Inc.
Dept. MB-552, Wichita 1, Kansas
Without obligation please send complete information
on Coleman circulating Gas Wall Heaters.

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Profit-Pointed!



PITTSBURGH
INTERLOCK
PLASTIC WALL TILE

The ONLY
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INTERLOCKING TILE

More DEALER DOLLARS!

Dealers who want to be "swamped" with sales, feature Pittsburgh Interlock—the plastic wall tile that's pointed for profits! More selling features make it 1952's "best seller." Beauty is locked-in—through and through color, front to back. Tiles are locked-on—can't fall out, replace easily. Dirt is locked-out—no mess, no dirt-catching grouting. Yes—Pittsburgh Interlock is easiest to sell, to service, to install profitably!

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*The World's Most
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Granted the Good
Housekeeping
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Accepted by the U.S.
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The first and only tile to receive the Fashion
Academy Gold Medal Award for 1952

For homes, apartments, hotels,
buildings and stores... write
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LETTERS

puff sheet for the lace pants school of architecture, obviously aimed at the newly married home-hunter market. But, what the hell, the ads are good.

ROBERT S. BELL, Realtor, Appraiser
Whittier, Calif.

WHAT LIES AHEAD FOR HOMEBUILDING

Sirs:

Some will object to the one or two points of criticism of our industry in your January editorial pointing out the future potential of the building industry. But I accept the criticism because it is sound. And generally, the editorial extends to the industry a long overdue compliment on the gains it has made in the last decade.

EARL W. SMITH
El Cerrito, Calif.

Sirs:

This editorial correctly expresses the thinking of the entire group at the NAHB Round Table meetings.

N. MANILOW
Chicago, Ill.

Sirs:

... An excellent article. I hope you will permit me to quote from it many, many times in 1952.

ALAN E. BROCKBANK, President
National Association of Home Builders
Washington, D. C.

Sirs:

... Right on the beam.

However, your statement that "the new type of tenancy created by low down payments and low monthly charges makes homes as easy to buy as to rent, even in bad times" goes a little far afield. This *was* the case, but I think considerable damage has been done, possibly for a long time, to this type of financing which is so necessary to assure real mass production.

In your final summary of the "four essentials to the successful industrialization of home building" you point out that this type of financing is necessary and "has already been taken." Let's not be too complacent about it and let's hope that your great publication will take up the cudgel for us in helping to keep this type of financing generally available.

EDWARD R. CARR
Washington, D. C.

Sirs:

Congratulations for constructing an excellent foundation for a related series of editorials.

For example, the emphasis placed upon government-industry co-operation and stable volume implies the necessity for a sequel offering some constructive criticism as to the effect of burdensome, unnecessary and ambiguous government regulations or controls.

(Continued on page 74)

Modern Steel Boiler Heat
and Hot Water...Bring Them In



HITCHING POST MOTEL
Roanoke, Va.

E. PAUL HAYES & ASSOCIATES
Architects

KEWANEE

STEEL BOILERS

With guests coming and leaving at all hours of the day and night, Modern Motels must provide comfortable heat and have an abundance of hot water for showering and shaving 24 hours a day.

One pays for a boiler only once, but its fuel must be bought every year . . . and fuel is one of the important expense items in the operation of any building.

Because of their ability to produce *more heat with less fuel* . . . plus a durability that means extra years of service . . . Kewanee is the ever increasing choice for our finest modern Motels.



Kewanee Square Heat Boiler
installed by
WEDDLE PLUMBING
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For **EASIER OPERATION,**
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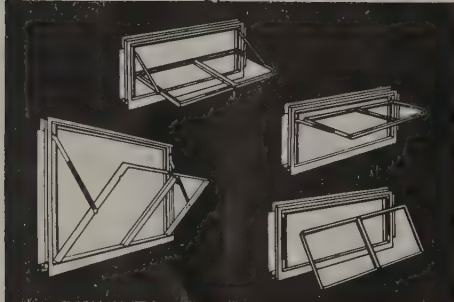
VENTO STEEL WINDOWS



VENTO

RESIDENCE CASEMENT WINDOWS

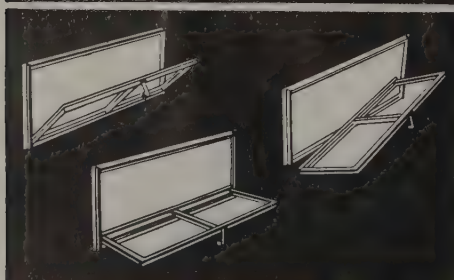
Extension type hinges, gracefully designed Roto or Lever type operators and positive cam action locking handles, allowing ventilator adjustment without screen removal. Available in all standard types and sizes.



VENTO

"CHAMPION" BASEMENT WINDOWS

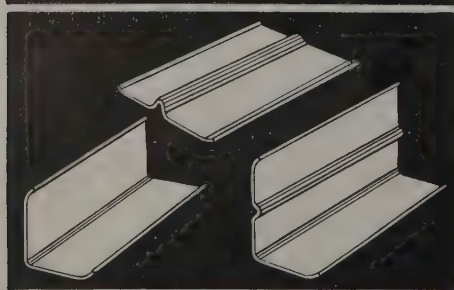
Three ventilation openings and sash removal. Double contact with leak-proof watershed sill. 14 gauge electrically welded frame, fins welded to jambs for quick installation. Three standard sizes, putty or puttyless glazing.



VENTO

"THRIFTY" BASEMENT WINDOWS

A real economy window especially designed for lower cost housing. Two position ventilation and easy sash removal. Fin flanges at jambs for quick installation. Three sizes, putty type only.



MEMBER METAL WINDOW INSTITUTE

See our catalog in Sweet's Architectural 27b/Ve. Write us for full information and name of nearest distributor.

VENTO STEEL PRODUCTS CO.
INC.

256 Colorado Ave. Buffalo 15, N. Y.

LETTERS

The elimination of such administrative obstacles will bring nearer to realization the stable 1,000,000 homes per year volume at lower cost to the purchasers of these homes.

You are to be congratulated for the wisdom displayed in preparing a wonderful "first issue" editorial. I was particularly impressed by the statement "Horse-and-buggy building codes still add \$1,000 to the cost of too many small houses. . . ." This statement forms a splendid basis for perhaps a full editorial setting forth some actual examples.

FRANKLIN L. BURNS
Denver, Colo.

Sirs:

I am interested in your point that an assembly line homebuilding industry is developing as opposed to a handicraft operation. As you point out, 83% of the homes are still being built by conventional methods, but not so long ago they were all constructed in that manner.

The economies realized by Levitt and Burns are of major importance, but do not yet apply to the bulk of home construction where community growth is slow.

J. D. BIGGERS, *President*
Libbey-Owens-Ford Glass Co.
Toledo, Ohio

BREUER AND TRAILER

Sirs:

My sympathy to playful Marcel Breuer (H&H, Jan. '52, p. 120). Artist Wolfson's trailer spoils a good house.

WILLIAM WEEKS
W. C. Weeks, Inc.
Sheboygan, Wis.

GOOGIE

Sirs:

Speaking of "vertical vs. horizontal lovers" (H&H, Feb. '52, p. 86), here's a poem translated from the Japanese of architect Takayama:

Over and over I say to my louver,
Louver, move over—you're taking the couver!
Some day you'll discover
I've left you the couver
And found a new louver.

PAUL WEIDLINGER, *Engineer*
Washington & N. Y.

A MELLOWER FHA

Sirs:

. . . We are working through the Los Angeles office of the FHA to obtain financing approval on our new type of construction involving precast hollow pumice concrete wall slabs. It is quite probable that the gripes reported on p. 43, H&H, Jan. '52, directed at the Los Angeles FHA office, had a mellowing effect as they accorded my architect a most cordial reception and even took him to lunch and promised fullest co-operation. . . .

H. A. VAN LOON
Bishop Hardware & Supply Co.
Bishop, Calif.

Important Chicago Area Builder tells why he chooses **DELCO-HEAT!**



Model 300-Farwest contains 912 sq. ft. of floor space

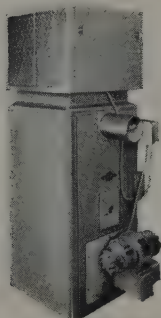


*Mr. Richard Smykal,
Chicagoland builder*

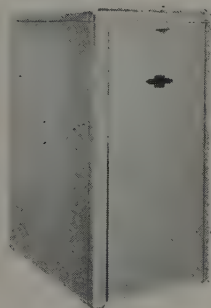
"We installed Delco-Heat Reverse Flow Conditionairs in our popular "Farwest" ranch-type homes," writes Mr. Richard Smykal, President, Richard Symkal, Inc., Wheaton, Ill., "and they are doing an outstanding job. Their efficient performance coupled with the unquestioned public acceptance of the

Delco-Heat name is the reason we will continue to specify Delco-Heat equipment in our future building programs."

F. E. Wheaton & Co., Inc., Wheaton, Illinois, installed Mr. Smykal's Delco-Heat Conditionairs.



Delco-Heat Reverse Flow Conditionair — a vertical type, oil-fired forced warm air furnace, specially designed for "perimeter" and "radial" heating systems. This is the ideal unit for low-cost warm air installations in homes without basements, where space is limited. Capacity: 75,000 Btu per hour output. Other conventional models to 200,000 Btu output also available.



Delco-Heat oil-fired steel boiler is perfectly suited for radiant heating systems—or conventional steam or hot water systems—in popular size homes. A tankless hot water coil is included as standard equipment. The location of the burner, gauges and controls on the front of the unit makes it ideal for installation in restricted areas or utility rooms. Available in round or cabinet-type jacket. Net rating, 300' of steam or 480' of hot water radiation.

Builders everywhere are finding that Delco-Heat adds sales appeal to the homes they build. That's because Delco-Heat equipment has the quality construction and economical operation demanded by home owners.

General Motors engineering experience and manufacturing skill keep prices well within any budget. And the completeness of the Delco-Heat line, with its flexibility of installation, solves many builders' problems.

Get the facts about Delco-Heat now! And remember there is a gas or oil-fired Delco-Heat unit for any size house — any type heating system. Send coupon below for complete information.

**For a good deal
DEAL WITH DELCO**

**GENERAL MOTORS
DELCO-HEAT**

CLIP AND MAIL TODAY!

DELCO APPLIANCE DIVISION, Dept. MB
General Motors Corp., Rochester 1, N. Y.

Please send me complete details and specifications on all Delco-Heat units.

Name

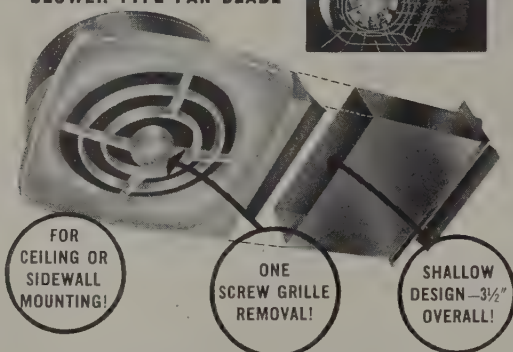
Address

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BERNS AIR KING KITCHEN FANS

they're new—all the way through!

BLOWER TYPE FAN BLADE



FOR
CEILING OR
SIDEWALL
MOUNTING!

ONE
SCREW GRILLE
REMOVAL!

SHALLOW
DESIGN— $\frac{3}{8}$ "
OVERALL!

Every feature you've ever wanted in a kitchen fan! New BLOWER-TYPE BLADE maintains constant high volume in long ducts... prevents motor burnouts due to clogging of ducts. Extremely powerful yet so quiet as to be practically unnoticeable. Chrome or White Enamel grille removable merely by unscrewing handy center knob. Adjustable frame mounts between 16" studs or center joists. Outside zinc frame will never warp or rust. Complete 3-speed control switch available at \$5.95 list.

10" model. List, incl. excise tax. **\$34.95**

NO RODS or CHAINS!

Wall Switch Controlled SIDE WALL MODEL



Flick of the switch starts and stops motor, opens and closes outside door. Same grille and construction features as ceiling model. Motor and blade completely removable by merely loosening two screws. Air tight, rubber lined, outside steel door with all zinc outer frame. 10" model for $5\frac{1}{2}$ " to 16" wall widths.

List, incl. excise tax. **\$55.40**

Pull Chain Model also available with all above features. In 8" models for 5" to $15\frac{3}{4}$ " wall widths—list, incl. excise tax, **\$27.55**. 10" model for $5\frac{1}{2}$ " to 16" wall widths, list incl. excise tax. **\$34.60**



NEW Packaged Ceiling Fan

Ready for installation right in its own "built-in" frame where minimum height doesn't permit usual attic fan. Sealed for life shaft bearings set in solid rubber for extreme quiet... sealed lubrication, ball bearing motor. In 24" to 42" models... list price as low as **\$110.00** incl. excise tax. Shutters optional and extra.

Available through leading Electrical Wholesalers everywhere.
Or write for descriptive literature to...

BERNS MFG. CORPORATION

3050 NORTH ROCKWELL STREET, CHICAGO 18, ILLINOIS

BEHIND THE BLUEPRINTS

Brief sketches of six of the men who participated in last month's MIT conference on design for mass housing (p. 134):



ALFRED LEVITT, of the almost legendary housebuilding Levitts, is designer and co-owner of the famous firm. Without formal architectural training (he was a liberal arts student at NYU), he has designed 22,000 Long Island houses since joining his father and brother in 1929. is now hard at work on a new Greenbelt Town near U. S. Steel's Morrisville, Pa. plant (Nov. issue '51). Tall, studious and articulate, he is a master of economy and sales appeal.



Fifty-two-year-old builder **FRITZ BURNS** is a native Minnesotan transplanted in 1921 to Los Angeles. A superb salesman, Burns began his meteoric career with a Minneapolis real estate firm as a schoolboy distributing circulars, was reputed to be earning \$100,000 a year in commissions from the company by the time he was 21. In 20 years of active homebuilding in southern California, he has built 16,000 houses, has served the industry as president of NAHB.



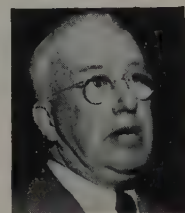
Prefabricator **FOSTER GUNNISON** is the Brooklyn-born son of a newspaper publisher. Forsaking journalism for the lighting fixture business in 1923, Gunnison eventually supplied all fixtures for the Empire State Building and Radio City Music Hall. In the depression '30's he turned to prefabrication, developed a wooden house of conventional design that sold well enough to attract Big Steel. In 1944, his firm became a U. S. Steel subsidiary.



Tall, blond architect-engineer **HOWARD T. FISHER** was born in Chicago in 1903, son of President Taft's Secretary of the Interior. Trained at Harvard (magna cum laude, 1926), Fisher is renowned for his research on building materials, mass construction methods, and prefabrication. His present Chicago office (opened in 1943) does both basic research and project designs, with emphasis on large-scale housing and shopping centers.



Columbus real estate tycoon **JOHN GALBREATH** is now engaged in the biggest project of his 27-year career. With U. S. Steel backing, he is building the 2,000-acre prefab town, Fairless Hills (Nov. issue '51), near the company's new Bucks County, Pa. plant. He is an alumnus of the University of Ohio at Athens, and past president of the National Association of Real Estate Boards. He is also part owner of the Pittsburgh Pirates.



Inventive, multifaceted **RICHARD BUCKMINSTER FULLER** has created his own system of mathematics, a three-wheeled car, a new method of map projection, a completely industrialized steel house, and a strong, simple, spider-web structural system (Sept. issue '51). The 57-year-old innovator comes from a famous old Boston family, is a short, stocky, controversial powerhouse of ideas.

Isn't the architect's design worth the price of a bathtub?

Designing a volume builder's house to combine maximum livability with minimum cost is just about the toughest job a house architect can tackle.

As LaPierre says, the windows of his \$10,000 model had to be detailed and re-detailed 83 times before the right combination of economy and effect was found. The roof framing of Tom Coogan's \$7,000 house was not only detailed but built and time-studied five different ways to get the best solution. Planning a 1,000 sq. ft. house needs far more study than a house twice as large, for so small a home will be livable only if the architect makes every inch count. And working out a good site plan for a small lot is difficult at best!

No architect can do right by a homebuilder if he attempts a quickie job on such a tough assignment. He must be prepared to spend hours and days studying and restudying his client's construction economies and market economies, hours and days working and reworking plans and details to add sales appeal or simplify volume duplication.

But no builder should expect such a painstaking, creative job unless he is willing to pay for it. The worst mistake a builder can make is to think small about his need for better design and better planning, not only for the satisfaction of his customers but also for his own profits and perhaps for the survival of his enterprise. In the far more competitive markets ahead a Model T house will be as hard to sell as a Model T car.

FHA could do a lot more than it has to encourage better design. The better resale value of homes well planned to fit local conditions and today's changed way of life has now been proved from Miami to Seattle, and that higher resale expectation should be reflected in higher FHA appraisals for better design, just as it was before the war. Good design is as important an appraisal factor as good construction, and if a builder found his mortgage base knocked down \$500 for inefficient planning and out-of-date styling he would very quickly realize the dollars and cents importance of design. The present FHA policy of allowing little more for even the best architect's fee than for a stock plan is a dangerous anachronism.

Builders are penny-wise, pound-foolish to try to get the high plan and design quality they need for a small fee plus \$25 a house. That will seldom be enough to get a top-flight small house architect to do an all-out job.

Our advice to builders is to play double or nothing on design; to make sure of getting a bang-up plan from a top-flight man.



Esra Stoller—Pictor

GEORGE NAKASHIMA is a second generation American anachronism of Japanese warrior ancestry, who lives with his wife Marion and their daughter Mira in a house he built himself near New Hope, Pa. For a self-confessed anachronism—as Nakashima is—New Hope is a good place to live.

HIS FURNITURE HIS HOUSE HIS WAY OF LIFE

There is always need for the master craftsman. And although houses and the things that go into them are undergoing rapid industrialization, this in some ways makes a still greater need today.

The master craftsman sets standards of quality which the machine does not yet approach; he is the translator of handicraft patterns into patterns with which the machine can cope. And perhaps the fact that he is actually able to compete with the machine implies some weakness in the production and merchandising operation of industry.

An old canal village on the Delaware River, surrounded by miles of rolling, stone-fenced farming country, it is small and quiet—the heart of nostalgic Bucks County. Gentleman farmers till the soil, and there is a big sign lettered on the side of the town's largest barn: ANTIQUE FURNITURE. Little visible evidence of Twentieth Century change has come to New Hope except rows of parking meters by the narrow twisting streets, which tax the summer motorists attracted by that barnside sign. There is also a snack shop to sell them "deliciously different fresh homemade pumpkin ice cream."

This winter, however, only 25 mi. south of New Hope, today's world has been moving into Bucks County with a vengeance. A prefabricated industrial city of 100,000 population is roaring up around the new U. S. Steel Fairless Works (Nov. issue '51). But it is doubtful that New Hope will become industrialized, nor will George Nakashima. He says he has only begun to perfect his anachronism.

Nakashima is a craftsman who makes modern furniture. Since the end of World War II he has fitted himself into this world of softly rolling countryside and strange summer compulsions, and the joinery has been very good. His furniture is in direct contrast to the carefully curried antiquity of Bucks County. Forms of this furniture are new, and are recognizably Nakashima's own; he makes no effort to seat the ghost of George Washington in the style to which it was accustomed. But

his product and his way of life are still more like New Hope's old ways than the new steel city's.

His furniture is all put together by hand, and is hand finished. It is all wood, solid wood, no veneers. It makes no attempt to symbolize the present by using steel, or plastics, or any other material besides wood, lovingly handled. His native lumber (air dried to retain the depth of the grain) is finished only in rubbed oil, and in contrast to most modern furniture's "marble" finish gives pleasure to the touch, as well as to the eye. Nakashima is the first man, it has been said, to pick up the art of earlier American furniture makers and advance it another step in design, producing a real second generation American craftsmanship. The house which he has built himself also reflects this same craftsmanship.

Nakashima is about 40 years old, orientally short and stocky, with glossy bristling black hair, heavy cheeks and eyes, and a dab moustache. His normal expression is pleasantly receptive, his manner mild, jovial and somewhat deceptively imperturbable. His voice and diction are startlingly like that of a modest commentator between symphonies on a small FM radio station. He is highly educated, with architectural

(Text continued on page 82)



Mira chair (named for Nakashima's daughter) designed in 1949, is a three-legged stool which comes in several heights. One on the right is 16 or 17" high, suitable for dining. Nakashima's answer to the mass-produced steel and laminated wood chair, it costs \$25 in walnut with poplar seat, oil-rubbed.

North side of house (below) is stone wall, with glazed entry way. Under the low shed is the cistern. Closer half of roof is cast concrete slates; the rest is corrugated asbestos-cement sheeting.

Ezra Stoller—Pictor



degrees from the University of Washington and MIT, and a diploma from the *Ecole Américaine de Beaux Arts* in France. And he gave the modern industrial world a considerable trial run before he made his personal decision that the industrial revolution was past its peak, headed downhill, and that he was not going with it.

He started shaping his anachronism in a shop in New Hope in 1945 with about \$75 in capital under him. He did not send out announcements, or solicit business, and still does not. Aside from a few pieces he licenses for factory manufacture by a New York furniture house, and a few he supplies a retail store in New York, he disposes of all his output to people who come or write directly to him.

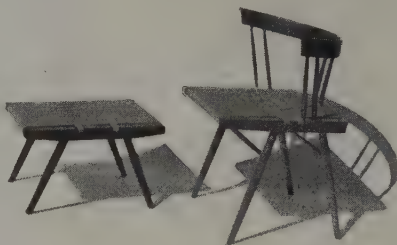
The output, and demand, was not great in the first three years of his enterprise. Nakashima figures that his rate of income was about 25¢ per working hour during that time. It was enough; the Nakashimas lived frugally, and George worked long hours. But his apprenticeship is over now; in the shop beside his house he has two full-time and two part-time assistants. There is another man in New Hope who does hand finishing for him; and a half-hour drive away, a three-man shop with a good deal of heavy equipment is kept busy doing rough preliminary cutting and shaping.

The total output of all his different designs now amounts to about 25 of his basic straight-backed chairs per week, or the equivalent in other designs. Nakashima himself still works at least 45 min. on each chair, and buyers of his pieces usually get delivery within three months of their order.

Nakashima has not renounced the machine. A point of great pride with him is the amount of preliminary work on his pieces which can be done mechanically. Spokes and spindles for his chairs, for example, are shaped in a nearby furniture factory, although it is the final hand shaving which brings out the grain and the feel, and proportions them to Nakashima's satisfaction. He thus remains master of the machine, not becoming a mechanic, and demonstrates that a craftsman still can exist in today's complicated world of marketing and distribution by making things and selling them directly to the user. He can if he is good enough, and tough enough to last out the introductory famine and create a market. Nakashima is tough. And with his toughness is a resiliency which



Straight-backed chair in walnut with poplar seat was designed in 1944, sells for \$40.



Grass-seated chair in walnut or cherry was designed in 1940, costs \$35. Stool is \$20.



Walnut coffee table (1949) uses natural edge of scarce wide plank; six exist, seven are on order. Price, \$125.



Walnut chest (1949) with sliding trays, \$225



Walnut armchair (1947) with poplar seat, \$55

Low, cushioned chair (1940); walnut or cherry frame, \$60; cushions, in muslin, \$26.

Photos: Holland



used to be described as restlessness 20 years ago. A friend of his of that time says, "He was good humored and pleasant, a bright Japanese kid with thick glasses. But he wasn't satisfied with textbook brilliance. He wanted integrity."

Nakashima's search for integrity led him through several architectural offices in New York, after graduation from MIT, and then to France, to India, and to Japan. In 1937 he was working in the Tokyo office of American architect Antonin Raymond, when he was sent to Pondichéry, a French colonial city in India. There he was to spend two years superintending construction on a dormitory for the followers of Sri Aurobindo, an Indian mystic who had moved to this small outpost of the French Empire in 1926 to get out of the British Empire. During these two years in India, Nakashima found what he was looking for.

In Pondichéry, he had his first experience of actually working on a building, not just drawing it on paper. He not only had to superintend construction of the dormitory, but he had to invent methods and teach the native workmen. "Reinforcing rods," he says, "were delivered on the beach like spaghetti, and we were the cooks." The resultant ferro-concrete structure was handsome enough to be printed in an American architectural magazine in 1949. Nakashima also became deeply interested in Indian mysticism while on this job, and threw away his glasses after curing his sight by exercises.

When the dormitory was finished in 1939, Nakashima returned to Tokyo. There he met Marion Okajima, a Seattle girl who was teaching English in Japan, and they became engaged. Complete with fiancée, serenity, 20-20 vision and a newly found satisfaction in architecture he sailed for home, the U. S.

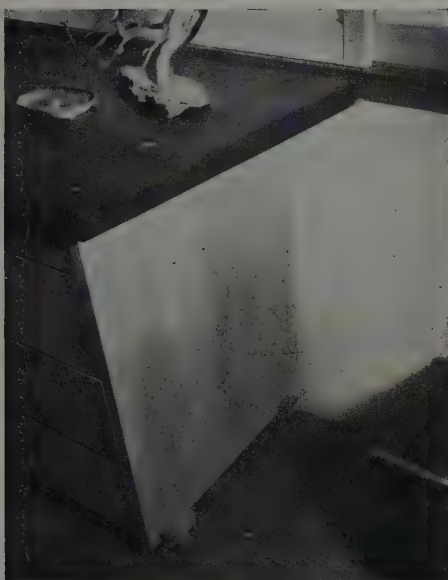
The satisfaction, however, was short-lived. He made a tour of the West Coast to see the famous modern buildings, and was shocked by their construction. "They were badly, ignorantly built," he says. The forms had changed but not the methods—there were plastic shapes with bones of 2 x 4's held by nails. The architects were over-specialized and knew nothing about building, like cooks who draw pictures of cakes but can't make the batter themselves. Everything was toe-nailed, shoddy construction not typical of our civilization." Reacting, Nakashima looked for a design and construction process he could

(Text continued on page 84)

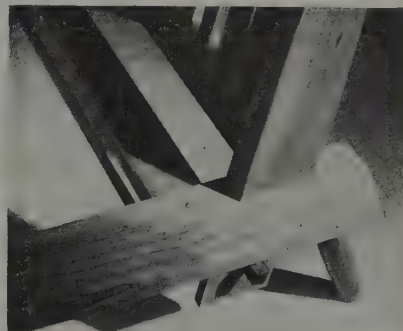
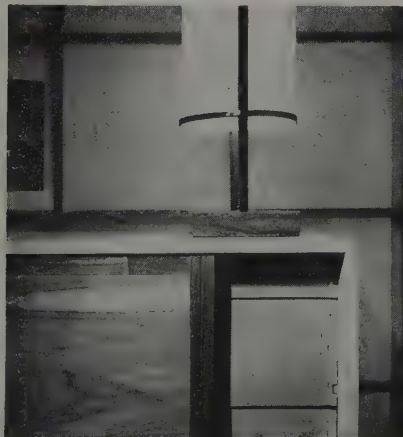


The shop and the furniture have the same grain. In the construction of buildings as of cabinets the clear, strong, and precise joining of carefully cured wood sets the quality of Nakashima's work. Most of the wood he uses is felled within 35 mi. of the shop (above), except for Port Orford cedar from the West Coast. He avoids tropical woods because he says they do not survive well away from their natural environment. He is annoyed by interior designers and architects who finish walls with carefully matched thin veneers of sensuous woods like primavera. This he calls "chi-chi, using wood like wallpaper."

Photos (below): Holland; (others) Ezra Stoller



Details like legs of chest above, drawer slides, right, and pegged chair joint, far right, distinguish his work.



control entirely. He had brought some tools back from Japan, but was now married, with not enough money to go into the construction business. So he started to make furniture. Photographs of his first pieces were published in a California magazine in 1941, showing much the same character and finish as today's. Nakashima told how he felt about the pieces: "The love for the nature of teak and walnut can best be obtained by working with the material: by cutting, planing, scraping, and sanding the wood. Hours spent by the true craftsman in bringing out the grain, which has long been imprisoned in the trunk of the tree, is an act of creation in itself. He passes his hand over the satiny texture and finds God within. It is man's true relationship with the years and centuries that the tree has spent absorbing the bounties of nature and strengthening its fibers. It is this quality that is not to be found on the drafting board but in the experiences of the mechanic."

Today he speaks more pungently about modern furniture, saying that there are two schools of modern design: 1) Imitation, slicked-up folk art, like doweled Shaker chairs ("Greenwich Village Shaker, Cocktail Shaker"); 2) decadent industrialized designs made to show off the contradictory tricks which machines can be made to do.

A second shock came to Nakashima in 1942, after the war had started. He and his wife and their infant daughter Mira, and thousands of other Americans of Japanese ancestry, were moved to "evacuation camps." The Nakashimas were sent to one in Idaho. Ironically, it was in the evacuation camp that Nakashima, bearer of three Western college degrees and assorted academic honors, received from an old Japanese carpenter, a fellow "evacuee," most of his instruction in woodworking. The carpenter and Nakashima worked together until 1943, when the Nakashima family was once more relocated.

This time it was to New Hope. Antonin Raymond, Nakashima's onetime employer in Tokyo, had an office and farm there, and offered George the job which enabled him to be cleared from the evacuation camp. Nakashima went to work on Raymond's Pennsylvania farm.

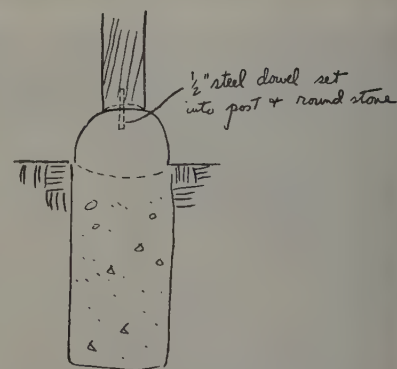
In 1945 he struck out on his own, renting a house for \$25 a month so he could go back to making furniture. In 1947, when his rented house was sold out from under him, he bought three acres of countryside

(Text continued on page 86)

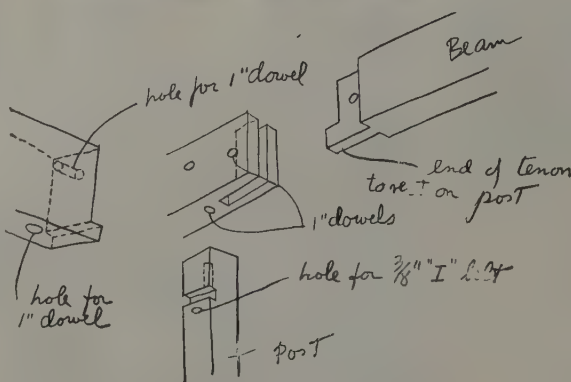


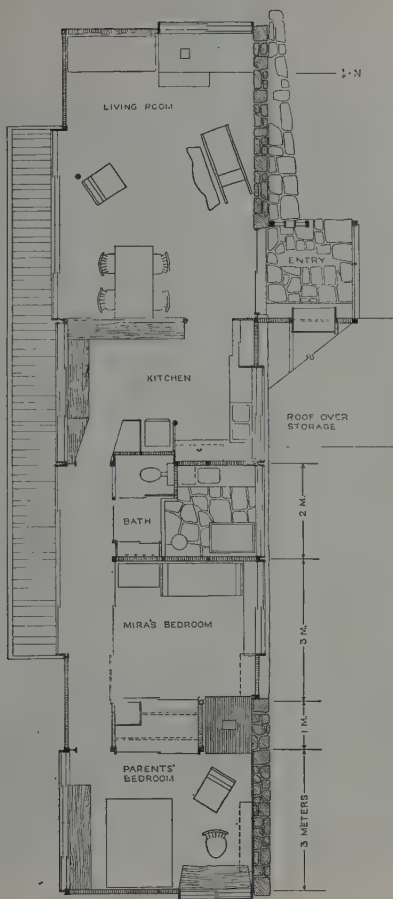
View along south side of the house

Nardin & Radoczny



Oak posts of building frame were patiently shaped to fit rocks, and doweled in place. Photo taken during construction and exploded sketch show how Nakashima avoids nailing.





East end of house, with kerosene supply

The module of this house is a meter, possibly as a result of Nakashima's French training. But the materials are characteristically American—prefabricated. Asbestos cement sheets surrounded by oak frames wall most of the house, and are reminiscent in color and texture of precise Japanese exterior plastering. Exterior oak is left entirely without paint or other finish. Stone wall in picture (*below*) was being assembled on a board to be used in the lobby of a new Pittsburgh office building when photo was taken.

View from north, below, across driveway and play equipment

Photos: Ezra Stoller—Pictor



for \$750 and put up a tent. The Nakashimas and their child lived happily in the tent for six months, until George had finished building a shop to work in, then in his spare time roughed in a house.

The house finally was finished last month, and it too is unique. The faintly oriental flavor which gives Nakashima's furniture a touch of honest exoticism is even clearer here . . . to a Westerner it looks like a Japanese house. It makes you think that if the Japanese used chairs (which they don't, preferring the floor), the chairs would be like Nakashima's. But to a Japanese professional eye the house is more an interpretation of traditional Japanese architecture than a part of it.

Ryuiti Hamaguti, a young Japanese architect and magazine editor, visited the Nakashima house in New Hope recently and admired it extravagantly, but pointed out the differences. One was the use of bolts in the oak frame (true Japanese carpenters use none, building their houses like cabinet work) and the use of prefabricated elements like sheets of corrugated asbestos cement for the roof and flat sheets as final outside finish of walls.

The house, which is about 800 sq. ft., was built for between \$4500 and \$5000, including all hired labor (but not its owner's). It may be the most finely finished house ever built for that price in the U. S., with wide plank floors of oil-rubbed walnut, birch, beech, and ash, and ceilings of matching wood of $\frac{3}{8}$ " pressed pure asbestos panels (bought from Army surplus for a dollar each). When they see the fine floors most visitors reverently remove their shoes. There is a lot of glass in the walls, especially to the south, but each pane has a Japanese sliding wall inside it made of paper mounted on light wood frame. When the clear glass view is not wanted, these "shojis" are slid closed. They provide insulation, stopping the glass draft, and maintain privacy without shutting out the light.

In Japan *shojis* are patterned traditionally, divided horizontally into thirds, then framed geometrically. Nakashima's are divided into halves, then framed geometrically. The visiting Japanese architect, Hamaguti, pointed out solemnly in his slow but precise English that in Japan this would be considered a free form.

There is no central heating system in the house; Nakashima couldn't afford one. At one end is a fireplace (*opposite page*), and at the other end between the two bedrooms, is a small floor-sunk kerosene space heater.

(Text continued on page 89)



1. In living room looking toward bedroom end of house



3. Bedroom at east end of house gets morning sun.



2. View over kitchen counter west into living room.
Fireplace is sole source of living room heat.

Photos: Ezra Stoller—Pictor

4. Sliding glass walls open Mira's room to porch



The warmth of good wood without too much finish makes this room an extraordinary experience in a modern house. Floor is broad walnut planks; far wall is even broader sap walnut planks; ceiling is common birch. Also extraordinary is the degree to which Nakashima has been able to create and shape his environment to fit his abilities and tastes. He built the furniture; he built the house; and he built his life around them. His 11-year-old daughter, a little girl who likes double bubble chewing gum and riddles, has also begun to put a skillful hand on her personal part of the house. In her bedroom she is drawing a large picture with a strong oriental flavor of farms, trees, foxes, and the view of Bucks County through her south glass wall.

Mira's mural is on the fabric covered sliding walls of the wardrobe closet which separates the two bedrooms.



5.

Photos: Ezra Stoller—Pictor



Between oil finishings chairs are hung out of the way on walls of the shop.



South elevation of shop

Is this an oriental esthetic? The answer to this question is that these forms are of distant oriental derivation, just as their designer is. But the directness, simplicity, and honesty of the structure is as much an essence of all that which is called modern architecture as it is of the palace at Katsura, built 500 years ago in the outskirts of Kyoto, Japan.

Perhaps Nakashima brought an increased sensitivity to these forms out of his cultural background; surely he studied the refinements during his years of work in Japan and India. It would, however, be a mistake to dismiss the beautiful proportioning and detailing of his buildings in New Hope, Pa. as a classic Japanese approach. For to Japanese eyes, it is distinctly a Nakashima approach.

Typical sliding window is backed inside the house by another set of sliding surfaces. Like Japanese shojis, these are paper mounted on light wood frames. They furnish privacy (with diffused light) and also are an insulation barrier against cold down drafts.



Two-part bathroom has shower and Japanese style tub



(continued from page 86)

In the middle, in the kitchen ceiling, are some electric resistance panels, but Nakashima has never found it necessary to connect their wires.

When he built the house, Nakashima could not afford a well, either, so water for the house is collected in a cistern. This provides enough water for swift showers and the Japanese style bath (page 88) although it is not up to the usual profligate U. S. bath standards.

Hamaguti's final judgment on the house is interesting in what it says about both the U. S. and Japan. "I like the house very much," he said, "I am at home in it away from my country. It is Mr. George Nakashima's creative interpretation of the Japanese house and I like it. The most important principal difference between this house and a house in Japan is the high degree of industrialization and insulation of this house."

George Nakashima wants to build some more houses. "This one isn't really a success," he says, "I have to build another one before I can speak with any authority."

The second house will be built this summer, on his three acres, and will be a combination showroom and guest house. Today

their little house often must also be used as a showroom and although all three Nakashimas are amiable extroverts, the parades of prospective customers who stalk through in stocking feet to look longingly at the family furniture sometimes are a strain.

Behind George's desire to build some houses is his old striving toward structural integrity. "Architecture today is 95% advertising art," he said in a recent conversation during one of his rare visits to New York. "I don't believe in these superman architects, these masters of form. Usually the forms they produce are something entirely apart from the method of building. Even the Bauhaus movement was primarily intellectual."

He looks upon housebuilding as an industrial challenge, even to him. He wouldn't want to go into it without owning the machinery to do his own millwork, and do it well enough so the lumber frame which holds the house up would be handsome enough and well enough detailed so it could be left exposed, not concealed with finish. "No toe-nailed fir 2 x 4's," he says, "hidden behind something. That's the worst and most expensive way of building. Nothing

costs more than hammer and saw work on the job. With the proper equipment it would be economical to mill good connections in the members, and use better lumber. Why, I can buy oak for 8¢ a foot locally, but I have to pay 14¢ for shipped-in fir."

"But George," another member of the conversation asked, "would that be so if the people who are building 25,000 houses at the steel town near you also started to buy local oak?"

"Well, maybe not, but then fir would go down," Nakashima smiled.

"But you would have to put up every one of the houses yourself, George, and how could you operate that way? Don't you want a Cadillac, George?"

"No, but I know a milling machine I'd like for the price of a Cadillac. My Ford does the same thing for me that a Cadillac would do, but the other machine would produce. In the country we don't think of wealth in terms of Cadillacs, anyway, but more in terms of manure heaps. My lumber pile is my wealth . . . and I'm still buying good trees knocked down in the last big storm to add to it. I just want a living, that's all, and there has to be a little profit to buy machines with."

Night view of entrance to house



OASIS FOR GOOD LIVING

**Garden apartments have the amenities of
private houses: terraces,
garages, enclosed service yards**

LOCATION: Berkeley, Calif.

HARWELL HARRIS, Architect B. REININGHAUS, Builder



S-plan carports are tied to service yards; roof overhang makes a handsome cover for the walk from street to both service and main entrances.

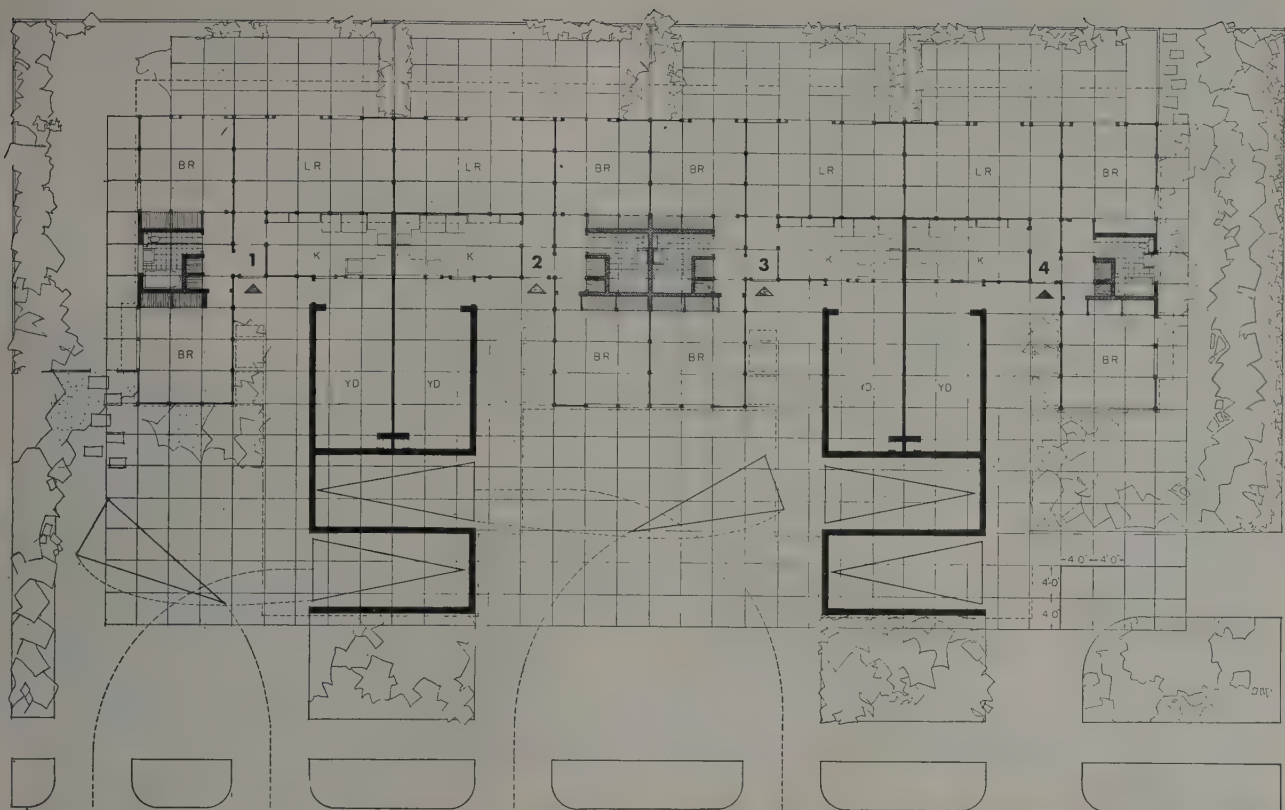


Private, walled-off terraces adjoin both living rooms (below) and bedrooms (see plan), and give tenants a chance to do some gardening.

The "front" (*opposite*) of these garden apartments strikingly reverses the traditional order of materials: their carports are honored with brick; the apartments themselves are of dry-wall panels. (These panels are a stock fiberboard lined on both sides with asbestos cement.) Says architect Harwell Harris, "You can't drive a car through a brick garage wall but you could ram it through a panel." The kitchen yards—also rather remarkably placed in front of the apartments—are brick too. Pleasant walks, covered continuously with roof overhangs link apartments, carports and yards (*photo upper right*). With service areas concentrated at the front, each apartment has its own fenced-in terrace in back, adjoining living room and bedroom.

The problem was to create a small oasis for good living in an area which was on the fringe of the business district but still zoned for residential use. This oasis had also to be one of original low cost and continuing low maintenance, within a





Photos: Rondal Partridge

In a near-business district of cumbersome old houses, this modern garden apartment offers privacy, convenience, simplified housekeeping.

rental range of from \$90 to \$100 per month. The client further specified that he wanted to use panel construction. To meet these requirements, architect Harris had an adept way of making his floor plans fit his clients' needs, a conscientious respect for materials, and considerable interest in the pattern and design possibilities of panel construction.

Inside, each apartment is neatly organized into small but comfortable rooms, with a minimum of hall space and a dead-end living room completely free of traffic. Terraces not only provide for secluded outdoor living and a good bit of potted gardening; since only window walls separate them from living and bedrooms, they also add to the apparent, visual width of these rooms.

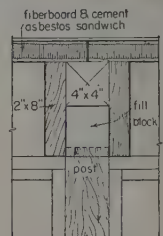
The planning job was not the comparatively simple one of merely working "from the inside out." It *had* to work just as well from the predetermined street side. By devising a kind of S plan for each two carports, Harris gave every family what

amounted to real privacy of locomotion and at the same time made each driveway serve for two cars. And by extending the garage roofs in a wide overhang, he made a cover for the walk from street to both service and main entrances.

Certain economies always result from post and panel type construction: each panel is its own insulating material, all in one piece and ready to be installed, and also supplies both interior and exterior finished walls. However, only the very careful detailing of joints and openings, in the hands of such a master as Harris, made possible the "finished" and permanent appearance. He says this did not boost costs. Wall panels were trimmed to fit between posts so that they would line up with roof panels. (*See detail, next page.*) Since this construction leaves no voids in which to run electrical, plumbing or heating ducts, spacers between ceiling beams and stops around wall panels conceal electric conduits; studs and corrugated cement asbestos between kitchens and bathrooms conceal plumb-



What looks like a luxurious modern house is exactly that—within an apartment. Note how the vertical pattern of the window wall is defined by the wide roof overhang. At the right, typical construction details



ing vents; cabinets conceal range and heater vents; and the cement slab floor is poured around the heating pipes.

Otherwise, the building technique was simple and economical; likewise the materials. Flooring is asphalt tile in main rooms, ceramic tile in bathrooms. Ceiling-roof is of beam and panel construction, with composition and gravel topping.

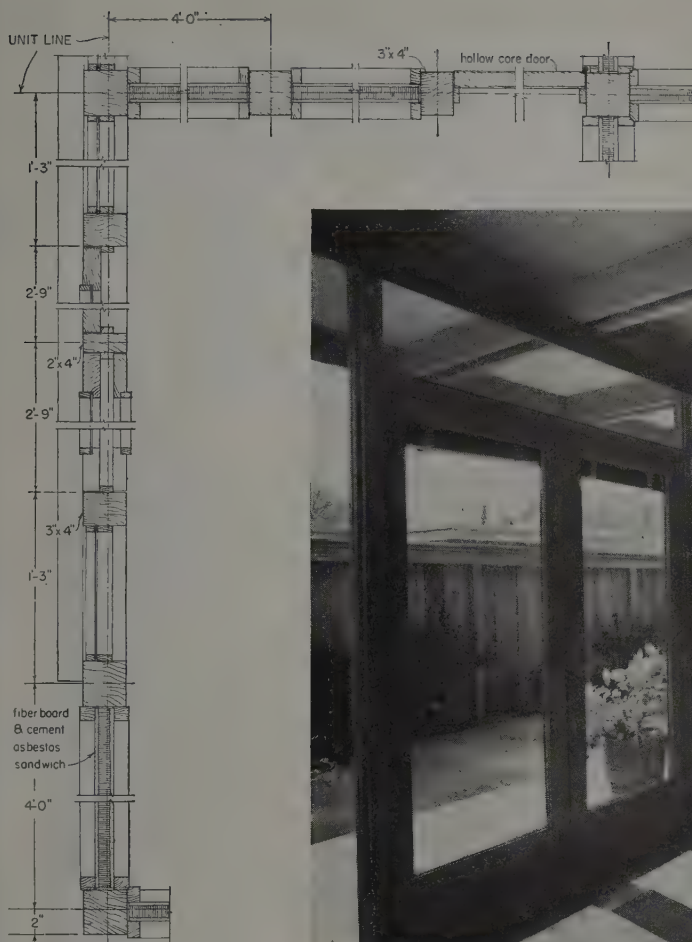
On the exterior, the building is unpretentious and uses its flat roof adroitly to make skylighting easy. The design of the roof overhangs serves to overcome an appearance of boxiness. Harris has further installed other features (such as the covered front walks) which pay off in looks as well as in practical convenience. Perhaps best of all are the garages—instead of the far too common “chicken coops,” these are expertly designed and neatly joined to the apartments. Inside, where it counts most, there is no question about the quality of the design: it is simple, skillful and exactly right for pleasant, private indoor-and-outdoor living in a small apartment in a crowded section.

COST BREAKDOWN, per apartment

Foundation concrete	\$186
Reinforcing steel	45
Millwork	369
Masonry	611
Panel boards	964
Electric wiring & fixtures...	427
Heating	485
Plumbing	811
Cement floors	252
Asphalt tile	146

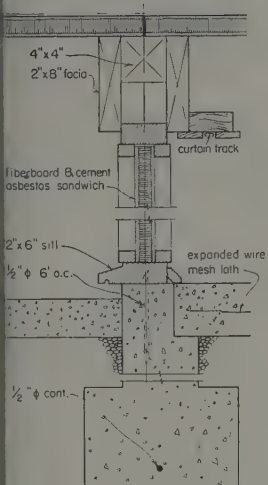
Ceramic tile	174
Sheet metal	113
Lumber	1,464
Cabinets	244
Paint	137
Hardware, rough & finish...	158
Glass	63
Roofing	167
Labor	1,932

TOTAL \$8,746



Floor-to-ceiling window wall admits light and adds to apparent width of living room. Exposed post and beam framing system has rhythmic pattern.

High walls not only make each terrace private and secluded; they also block surrounding built-up neighborhood view from inside of apartments.





GORDON DRAKE 1917-1952

Gordon Drake died on January 15th, in the blizzard that enveloped California's Sierra ski resorts. He was only 34 years old. Like architect Ernest Born, whose office was only a block away from Drake's, many people who knew his work may have said to themselves: "It's curious the way his death has touched me deeply, and I didn't even know him."

The truth is that Drake was a rather extraordinary young man. A Texan by birth, he spent a good deal of time in Hawaii before he won an athletic scholarship (he was a track star) to the University of Southern California. While there he came under the influence of the architect Carl Troedsson. "I can't play games any more," he told his track coach, "I've got something serious to do." Years later he added: "Troedsson taught me that architecture was a thing of the spirit. I still think he was right."

There followed several years with Troedsson, then five years with Harwell Hamilton Harris. Says Harris: "Many talk of the social obligations of the architect but their work seldom shows it; Drake's work did."

When Drake left Harris it was to join the U. S. Marines as an engineering officer. He lived through most of the major Pacific campaigns, was wounded several times, and several times had malaria. He used to send Harris plans and sketches from all over the Pacific, asking for his criticism. When the war was won, Drake—now a major—quit the Marine Corps to open his own office in Los Angeles. By this time he had built his own small house (*opposite*)—a house that attracted attention the world over. Nails were still hard to come by, and Harwell Harris lent him some to finish the house.

Drake got a few jobs in the San Francisco area and moved his office first to Carmel and then to San Francisco. "Gordon had a bitter struggle," says landscape architect Douglas Baylis, his associate. He would work 15 or 16 hours a day, "almost torn apart arriving at a good solution . . . We were all starry-eyed, but Gordon was the most starry-eyed of us all."

When Gordon Drake died, he left behind him some 60 houses, two tracts, one prefabricated unit, six commercial buildings. Last summer he wrote to this magazine: "There hasn't been time yet to produce any really good buildings. Perhaps in another ten years or so . . ." Just before he left on his last trip, he said to Baylis: "I've got my signals all clear, finally." His car was paid for, he expected to get married, he was excited about a big new job, and the Marines had decided against calling him back.

Perhaps the pictures on the next eight pages will give a hint of what Gordon Drake was after. Perhaps he had "got his signals clear" long before he knew it himself.

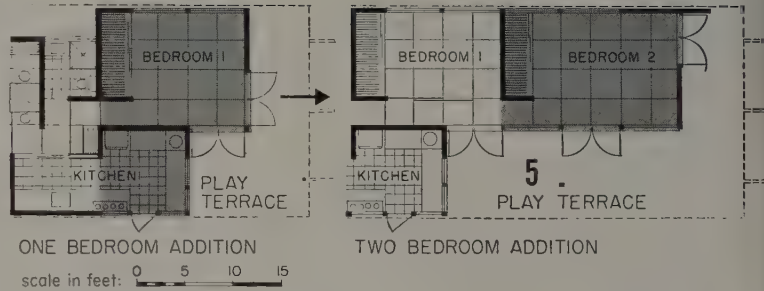
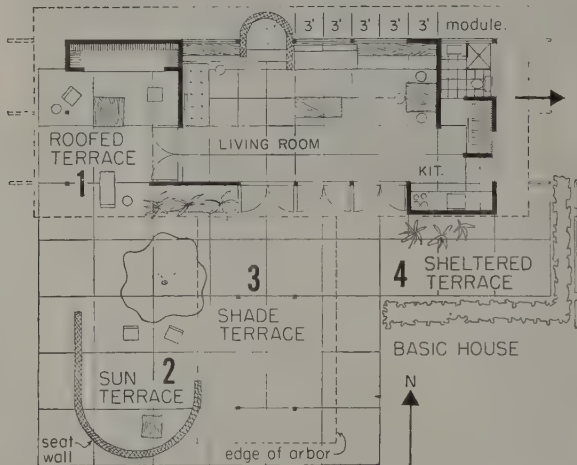


←
Pool and terrace outside Gordon Drake's own house in Los Angeles, which he built in 1947. Note the clear modular expression, the almost Japanese details, the use of light as an architectural element.

Photo: Julius Shulman

Gordon Drake will best be remembered for his small houses.

On these and subsequent pages are shown pictures of half-a-dozen California homes built by Drake. The large pictures show one of his last (and most successful) houses: a "Unit House" designed to grow with the family, built last fall in Alameda County, Calif.



THIS EXPANDING HOUSE HAS

The "Unit House" demonstrates four principles of modern domestic architecture which were especially dear to Drake. They are—

The concept of outdoor living;

The concept of modular structure
(with all the social and economic advances that this implies);

The concept of light used architecturally;

And the concept of precise elegance—
as practiced most successfully by the Japanese.

These principles Drake owed to Harris, more than to anyone else.

No Drake house has paid as much attention to *outdoor living*—and to different kinds of outdoor living—as the "Unit House" shown above and at right. As planned jointly with landscape architect Douglas Baylis, the house actually has *five distinct zones for California outdoor living*. In the plan, left to right, the "Unit House" garden consists of (1) a roofed terrace at the end of the living room; (2) a sun terrace framed in a curved retaining wall; (3) a shade terrace under a light trellis of wooden slats; (4) a sheltered terrace protected by screens and planting against the wind; and (5)—as the house grows to accommodate children—a play terrace that can be supervised from the kitchen. The plans on this page also explain the three-stage growth of the house made possible by its 3' square, modular structural grid.





IN HIS EARLIER WORK, Gordon Drake frequently tackled the problem of outdoor living in imaginative and colorful ways. From left to right, these pictures

show the terrace in his own house (1947), the patio in a recent Carmel House (1950) and that in the Damman House (1949).

FIVE ZONES FOR CALIFORNIA OUTDOOR LIVING





EARLIER OUTDOOR LIVING PLANS were also incorporated in the Prefab House (1947).



ANOTHER VIEW of Dammon House patio (see page 97), which can be supervised from the kitchen, thus serves as child play area.

MODULAR STRUCTURE GAVE DRAKE'S WORK FLEXIBILITY, DISCIPLINE, PREFAB POSSIBILITIES

When *ARCHITECTURAL FORUM*, in Sept. '47, published a number of important postwar houses by young architects across the U.S., Gordon Drake's contribution (*opposite page*) was a modular structure, painstakingly detailed and carefully analyzed for modern assembly-line erection.

Drake's use and visible expression of a structural module gave his houses a rhythm similar to that which you get from a drumbeat repeated all the way through a piece of music. Just as the drumbeat will pull together a musical composition and give it a sense of discipline and order, so Drake's visible regular module gave his architecture a sense of discipline and order not always found in rambling, close-to-nature houses.

Drake believed that undisciplined building made for "waste, confusion and inefficiency . . . Architects concerned with housing," he would add, "will either work for prefabrication and building integration, or they will no longer exist economically." And because Drake felt that "the only way to prove the point now is build," he never built a house that did not conform to a modular grid—and thus helped to "prove the point now."

In the "Unit House" (designed on a 3' module throughout—the width of door plus frame) the points proved included the one that modular construction makes for easy expansion and greater flexibility. For this house was designed to grow from an original one-room apartment all the way to a final two-bedroom structure to take care of children. Realistically, Drake designed the house to grow in its kitchen facilities as well, provided for yet another roofed terrace for future child play under supervision from the kitchen (*see plans on previous page*).

Photos: (above) Morley Baer; (others) Julius Shulman

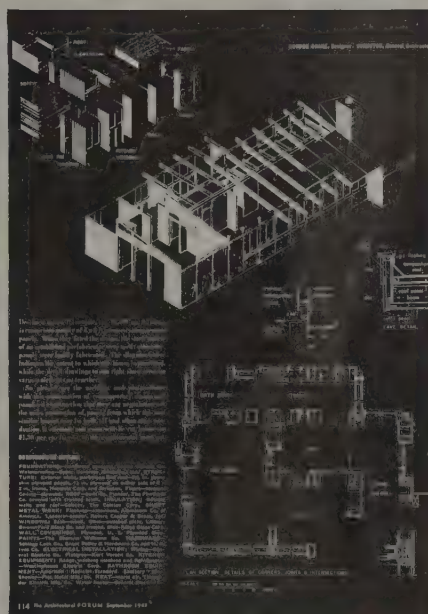




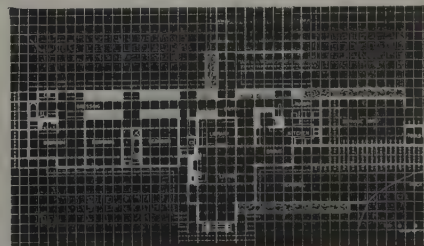
D'S EYE VIEW of Carmel House shows three or four distinct patios, terrace and balconies, different kinds of outdoor living.



HARWELL HARRIS taught Drake a good deal about outdoor living. Weston Havens patio by Harris (1943).



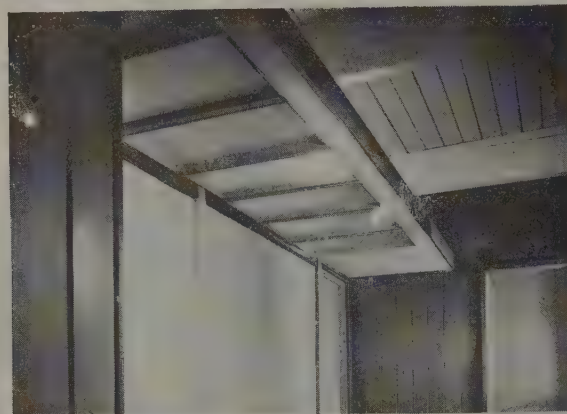
EARLIER PREFAB designed on 4' module was built by Drake in 1947, published in ARCHITECTURAL FORUM that year. Below: typical Harris plan on 3' grid.



1.



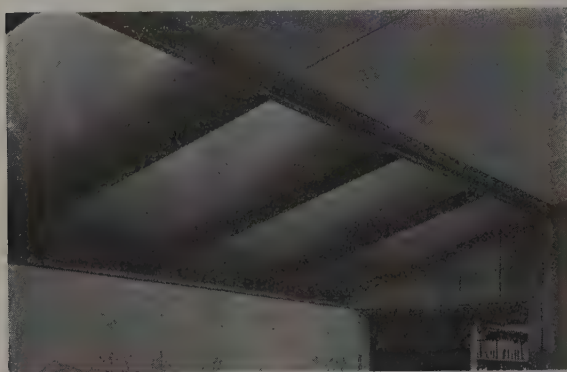
2.



3.



EARLIER EXPERIMENTS WITH LIGHT show Drake using glass gable ends (1), recessed light panels (2) and translucent glass screens (3) in his houses to create pleasant surprise effects. In this, as in other ideas, Drake followed Harwell Harris whose Weston Havens' living room (below) had luminous ceiling panels also.



PLAY OF LIGHT GAVE DRAKE'S HOUSES THEIR POETIC QUALITY

Among Drake's favorite architectural materials was light—*natural light* through clerestories, glass gable ends, translucent screens and, of course, through large walls of plate glass; *artificial light* recessed in the structural frame and shielded with obscure glass panels, or run in deep wooden troughs that helped to accentuate the direction of a space or to illuminate the structural patterns.

It is very unusual to see a freestanding lamp or an attached light fixture in a Drake house; light is always used as an integral element of the structure—an important element to stress a particular point in composition or in space.

Drake realized that the rays of the sun entering a house through a virtual peephole—a thin clerestory slot, or a tiny triangle under a gable end—would travel across wall surfaces and floors, create fascinating patterns and animate interior spaces. He realized, too, how easily the apparent size, the apparent proportions or the apparent color of a room could be changed by the flick of a switch. Unlike many architects who can visualize only concrete materials, Drake understood abstract architectural qualities—like the changes in atmosphere that light alone can produce.

Living room in unit house (opposite) has glass gable end, trough lights and clerestory strips.

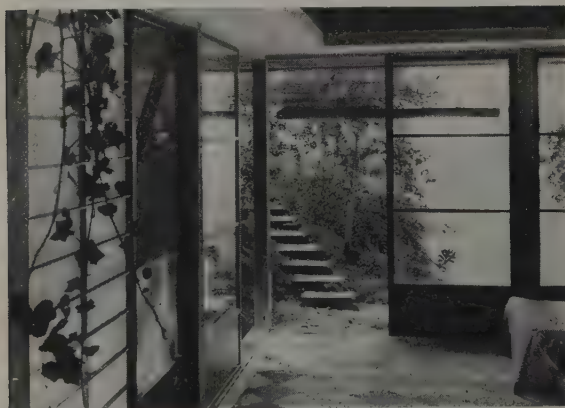
Photos: (top) Morley Baer; (others) Julius Shulman





Photos: (above) Morley Baer; (below) Fred R. Dapfrich

IN EARLIER HOUSES like the ones above, Drake used Japanese motifs for their light elegance. The respect for Japanese architecture also came from Harwell Harris, whose own 1937 house is shown below.



JAPANESE DETAILS GAVE DRAKE'S HOUSES LIGHTNESS AND GRACE

**This is what they said
about Gordon Drake**

ERNEST BORN: "It was our great gain that he left Los Angeles and came up here. He had a pureness and poetic fervor about everything he did."

GARDNER DAILEY: "His Carmel house . . . showed imagination and a good understanding of structure and design. He seemed a young man of exceptional gifts."

HARWELL H. HARRIS: "What he used, he used well. The scale of his work was human. He didn't try to make small things look grandiose. . . . He exerted himself tremendously and never spared himself. He showed great promise."

HENRY HILL: "Drake was an architect in the fullest sense of the meaning. I wanted to know him more. He was a hell of a wonderful guy. It was a shocking loss."

WILLIAM W. WURSTER: "He was a most thoughtful, sensitive person. . . . His houses were very beautiful. We lost somebody who was working away at ideas and ideals."

Note: Landscape architect Douglas Baylis is currently preparing a book and a traveling show on Drake's work.



Like many architects on America's West Coast, Gordon Drake was deeply impressed with the art of Japanese designers of houses and gardens. To them he owed many of his details, his translucent screens, his shoji patterns, his post and beam connections. To them his houses owe much of their nimble grace.

Julius Shulman



Last summer, Gordon Drake was asked for a statement of his principles. He said: "The few architects of today who do wonderful building do so because they must. They weren't handed principles as a gift, they seized them through work, through struggle and through sacrifice . . . It's really up to the younger generation to go forward by themselves. There is no easy way out. A few young men will persevere and produce architecture . . ." He was one of those few.

FOUR-TERRACE HOUSE

Michigan version of indoor-outdoor living

provides an extraordinary range of family activity:

outdoors with four terraces,

indoors with a flexible in-line plan

LOCATION: Franklin, Mich.

EDWARD P. ELLIOTT, A.R.I.B.A., Architect

EDWARD A. EICHSTEDT, Landscape Architect

ALEX GOW, Contractor

Michigan people, it seems, want to live outdoors too. And neither snow nor sleet nor sloping sites will stop them. In this house for an artist, his wife and small child, architect Elliott picked up the challenge, organized an undulating hilltop and a variable climate into a highly satisfactory spot for outdoor activities. Credit to him: the task was more exacting than simply importing California-style patios to Michigan. And the result, besides working well for the owners, has its own fresh regional flavor.

Coupled with an open modular plan for the interior (see p. 106), the four outside zones he created are as varied—and as suited to local conditions—as are Gordon Drake's five zones for California's outdoor living (pp. 96-97): **a)** Covered terrace (see sketch), with barbecue built into the chimney, for semi-outdoor meals, play, shaded relaxation. It is shielded from rain and hot sun by **b)** a sun bathing balcony, well placed at the sunny south corner of the house for maximum use, protected from wind and wandering eyes by a solid wood parapet around three sides, a blank wall in back. Adjacent to the dining area, it doubles easily for open-air dining. **c)** Morning sitting terrace, facing east, partially shielded by roof overhang and projections of the house. **d)** A dining and play balcony catches afternoon sun, is a large porch for children's play supervised from sink, range and ironing board, or a pleasant place for sunset watching and meal serving. Like the sun porch, it economically forms a roof, in this case for the carport. Placing carport on a lower level was logically determined by the roll of the site and by the fact that Michigan driveways if too steep, can turn into unnavigable ice in hard weather.

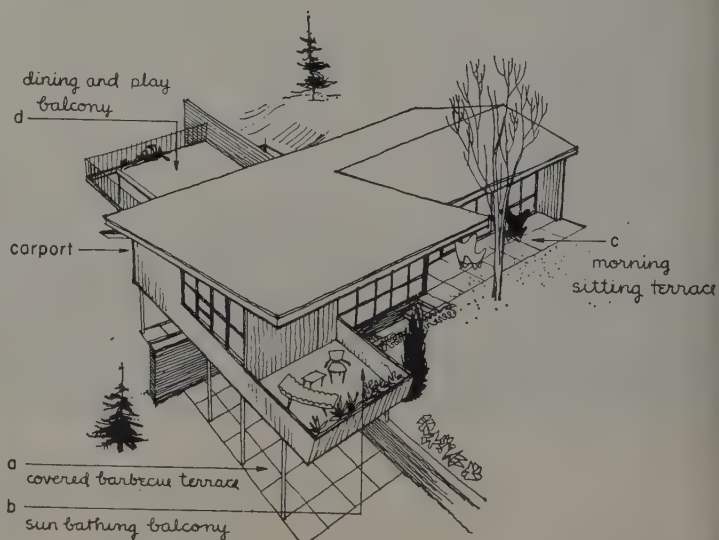
With a hilltop panorama in all directions, Elliott opened up with glass, then made solid walls separate and frame different views and give privacy where needed: between dining area and sun balcony, on the side of the bedroom facing neighbors, on the street side of the child's room to shut out headlights and other distractions. Exterior appearance, if a bit monumental (perhaps the solid influence of Saarinen, with whom Elliott worked as senior designer for five years), is warmed with natural cedar siding and accented with bright colors: red eave lines and pipe columns, yellow-painted plywood panels under windows.

Construction notes: hollow clay wall tiles used for flooring match the effect and easy maintenance of quarry tile without the expense. Split in two and laid in cement, they provide good conduction for hot water radiant heating coils beneath. Cost of house (1,900 sq. ft. plus outdoor areas): just under \$17 per sq. ft.

Photos: Richard Shirk



a-b) Rear of house has sun balcony, covered terrace beneath. Lower panes of double-glazed living room swing up to catch prevailing south breeze.





c) Sitting terrace, outside bedroom windows, faces southeast, for morning sun. Jog in plan and extended wall create partial shelter on both sides and above, and covered door to living area (center). The 6' overhang roofs out summer sun, lets winter rays into the living room.



d) View from west shows dining-play balcony over carport, left, and sun balcony over barbeque terrace, right. These under-house areas will be enclosed for garage, bath and artist's studio. Car is stored on lower level of sloping site to minimize steepness of driveway. Colored planes of masonry walls divide outdoor living areas.

The in-line plan (below) of this house actually is a double in-line scheme, bisected by a storage-utility core that runs straight down the middle. Circulation is quick and convenient: starting at the main entry, directly across the center of the house to the back, left to bath and bedroom hall, right to laundry and kitchen. The second line of communication, parallel to the first, is open from end to end through the main living areas, which may be divided into their separate functions by drawing curtains, as in architect George Matsumoto's in-line plans for two small houses (H&H, Feb. '52). In addition, there are two openings at either end of the central core for cross-circulation, allowing a virtually uninterrupted path around the outside of the plan.

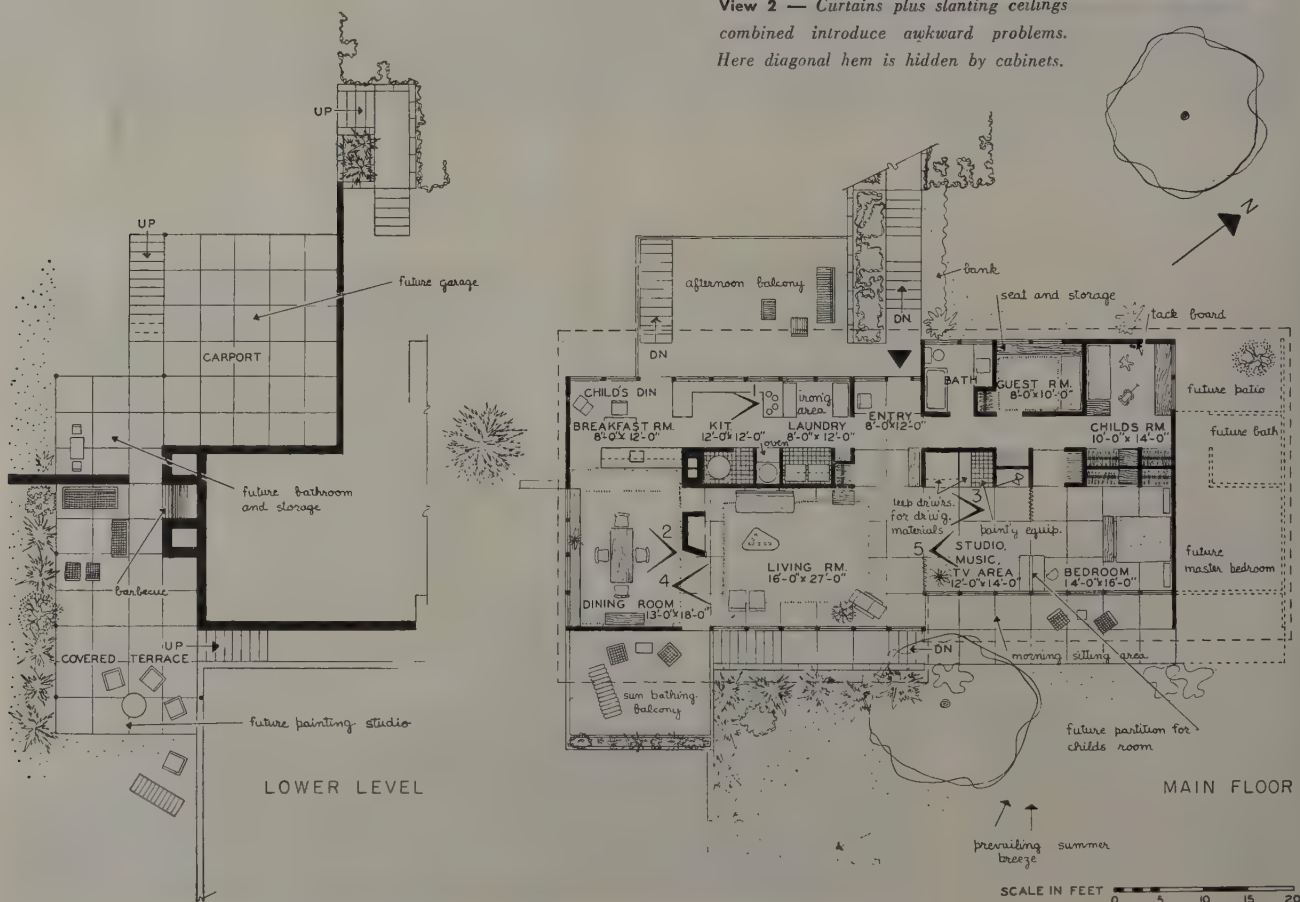
On the interior, walls and doors have been kept to a minimum; curtains allow flexibility in combining and separating living, studio and bedroom. The plan, essentially a rectangle with all elements lined up on a 4' module for fast, simplified construction, has one significant jog—by moving the bedroom end of the house 4' out of line, three things were accomplished: 1) on the front, a sheltered main entry and a deeper overhang above the "afternoon balcony," 2) at the rear, the same protection for morning sitting terrace and secondary entrance and 3) a jog in both front and rear elevations that breaks up their long expanse for the eye. Planning notes: kitchen is ideally located for carport and deliveries; bath is convenient for guests but a long trek from owners' bedroom. Future master bedroom seems stingy compared to present quarters but will have its own bath. Kitchen and bath plumbing lines were kept simple and grouped on the street side.



View 1 (see plan)—In-line kitchen has door to dining-play balcony at right, pass counter and access to dining room at left. Breakfast nook at back is so pleasant that the owner often sets up his drawing board there.



View 2 — Curtains plus slanting ceilings combined introduce awkward problems. Here diagonal hem is hidden by cabinets.





View 3 — Bamboo-splint curtain draws back to join studio with living room; fireplace separates dining room beyond. The floor, of inexpensive split wall tile, has radiant heat.

View 5 — Another curtain allows master bedroom to become part of living area. Walls: birch plywood, cedar planks; ceilings: plaster.



View 4 — Ceiling slopes help to divide long open living area visually into separate spaces. Clerestory and fan over studio provide north light, ventilation.





HANDSOME SPACE at low cost is dramatic proof that barn remodeling can pay

LOCATION: Port Chester, N.Y.
EDWARD L. BARNES, Architect
RAYBACK, INC., General Contractors

Ezra Stoller—Pictor



Picture at right was taken from dining area, shows low brick chimney breast in foreground. Flue is of galvanized iron. Part of dining area (visible in picture above) is very low to permit skylight to dip down to floor line, open up the dramatic view below.

This remodeled barn 50 min. from Manhattan is proof that there is probably no better way of getting cheap and unconventional space than to convert one of these large, empty farm structures for year-round living.

In this case, the owners had been given a slight head start: for the 75-year old barn which they bought for about \$3,000 (excl. of 2½ acres of land) had been remodeled once before—in the '20's, when it was turned into an unheated, uninsulated two-bedroom summer house (see plans).

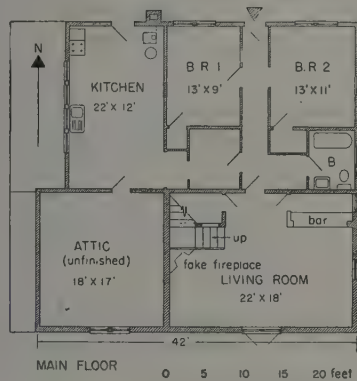
Nonetheless, the job architect Ed Barnes did for his clients was a thorough conversion (incl. insulation and general repairs); for all intents and purposes, this was a remodeling job that started from scratch. Only two bedrooms were left intact.

Here is what the owners got out of their \$3,000 structure:

- ▶ *On the ground floor*—a two-car garage, a heating plant, storage room and space for two bedrooms, dressing room and bath.
- ▶ *On the main floor*—a 17' by 41' living-dining area, a kitchen-utility room, two bedrooms and a bath.
- ▶ *And on the balcony level*—a master bedroom, a bath, large storage closets and a study-balcony.

The total cost of this conversion, plus the original cost of the structure, was only about \$21,000 (incl. fees, water and other connections, and kitchen equipment); for this, the owners got 40,000 cu. ft. of modern space. *The cubic foot cost, therefore, was a mere 50¢—anywhere from one-half to one-quarter of the cost of an equivalent new structure at prevailing prices!*

BEFORE



Original plan had unused attic space adjoining kitchen; papier-mâché fireplace; stairs poorly located. Interior was very dark, damp and musty.



Old exterior was in bad repair. Owners did relatively little to ground floor, but expect to convert it later on.

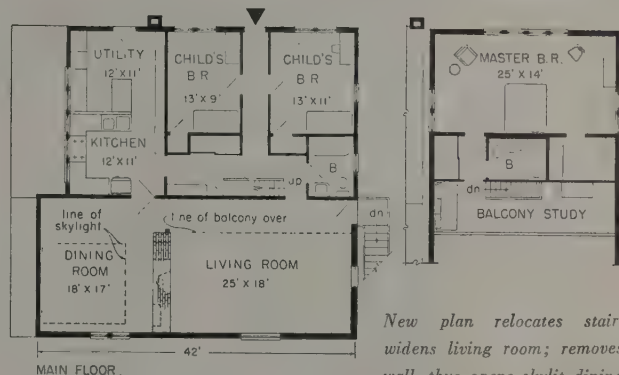


Old balcony was used as rumpus area, had Tudor railing. Living room also boasted fake Tudor beams.



Old kitchen contained water heater, little other equipment. Barnes relocated heater in ground floor utility room.

AFTER



New plan relocates stair, widens living room; removes wall, thus opens skylit dining room behind low chimney breast. New fireplace cost \$475.



New exterior shows 17' high window in living room (cost: \$250), new skylight over most of low dining area (\$500).



New balcony area is used for spacious master-bedroom suite. Walls and ceilings are white, with color accents in fabrics.



New kitchen has separate utility-eating area. New equipment cost \$700, is included in the total cost of this job.

SEWERLESS TOILET WITHOUT CHEMICALS

**New continuously flushing,
closed circuit waste-disposal system
needs neither septic tank nor
municipal sewer line connection.**

**Although it is still only in the testing stage
its significance to builders may well be:**

1. It may make it possible to put houses on land which today is impractical for big developments because it has neither municipal sewer lines nor a soil with characteristics which can be used economically for septic tanks. A case in point is Paducah, Ky., where the FHA will not insure sites for homes in the Atomic Energy labor living area because percolation tests on the land indicate that septic tanks will not work satisfactorily. Yet in this area there is no municipal waste-disposal system.

2. It may save money in the original installation, according to the inventor. For an average two- or three-bedroom house without nearby sewer lines the \$700 to \$1,100 plumbing bill might be cut drastically—as much as \$400, Boester figures.

3. It may save material. Waste pipes can be cut down from the average 4' size to 1½', an important metal economy, or plastic tubing might be used.

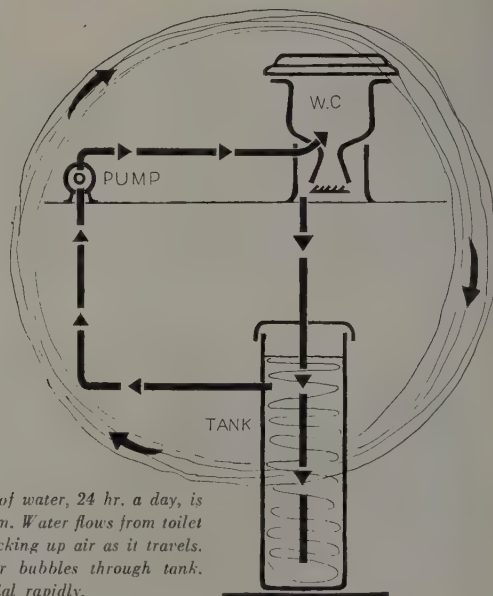
4. It may save operating expense. Although this individual disposal system runs a fractional horsepower electric pump continuously, at an average power cost of \$1.50 to \$2 per month, so much water is saved that utility economy of \$2 per month per unit is expected on a national average.

5. In short, it could help make the house autonomous—dependent of the land on which it stands. This notion has been vigorously pioneered by Buckminster Fuller for more than 25 years (Aug. issue '51). Pointing out that houses have innumerable umbilical cords that tie them to the earth (water, gas, electric and sewage lines), Fuller has long advocated a type of mobile shelter that would fit the needs of our mobile society, would generate its own power and heat, and dispose of its own wastes without tying itself down irrevocably to a fixed location. Fuller, too, has long sounded warnings against our waste of natural resources, frequently advocated the use of sprays (which use almost no water) and the re-use of water to minimize its waste.

Here is an important new plumbing package which may add to today's two safe ways of disposing of toilet wastes in the individual house (present methods: an expensive septic tank in the yard, or long circuits of costly piping to the municipal sewage disposal plant).*

This projected method seems to send sewage practically nowhere; it is dissipated aerobically in a self-contained disposal system sized to fit the individual house: destroyed by low temperature flash oxidation in a small tank *without chemicals*. It's all done with air and water; and the ingenious new design—first unveiled by researcher Carl Boester at last month's National Association of Home Builders' Trade Secrets meeting in Washington, D. C.—circulates the same 60 gal. of water so many thousands of times that actual consumption is negligible.

To the nation, whose experts are justifiably anxious about a plunging water table, this could mean a 75% water saving in new building developments, and a sigh of relief by taxpayers concerned about the massive problem of constructing reservoirs to handle thirsty new population massings. (The average household consumption of water is estimated at approximately 150 gal. a day.)



Constant circulation of water, 24 hr. a day, is essential to this system. Water flows from toilet to tank and back, picking up air as it travels. Oxygen entrained air bubbles through tank, oxidizes waste material rapidly.

* Municipal sewage systems are believed to serve about 92,000,000 people in the U. S., residential septic tanks about 17,000,000. The old cesspool is outlawed by most state health departments.



Ankers

At NAHB Washington meeting on Feb. 19, Boester introduced new plumbing system, showed complete and cutaway toilets.

There are three important elements in the new system

- first:** a trailer-type waste-grinding toilet, which receives and grinds up waste;
- second:** a 60 gal. tank into which the waste is then drained by gravity;
- third:** a 1/6 hp self-priming electric "moyno" type pump, which continuously draws water from the tank and circulates it to the toilet.

For further details,

turn to next page.

THE TOILET doesn't have to be flushed by a control; it is constantly flushing. The steady flow and reflow of water at about 3 gal. per min. enters the side of the toilet bowl with enough pressure (about 20 lb.) to spin the rotor of the grinding mechanism. This constant flow also does something of even greater importance in the waste-destroying process: it picks up air in its ceaseless passage from tank to toilet, and the entrained oxygen bubbles through the tank with always enough present in the water to disintegrate and oxidize the waste immediately when it arrives. The rotor revolves at 800 rpm and like a fan induces an excessive amount of air to be introduced into the grinding and mixing chamber.

Boester describes this as "a process of waste incineration or low temperature combustion of flash or instantaneous oxidation." According to him, all that remains of the waste is a minute amount of ash, some of which settles to the bottom of the tank, some remaining in suspension (amounting to only $\frac{1}{2}$ to $\frac{3}{4}$ lb. per year per person using the toilet), and methane, carbon dioxide, and carbon monoxide gases, which are vented. The ash, which is odorless and useless, can easily be drained out of the tank at long intervals, probably 10 to 40 years in normal use. Success of the invention hinges on whether this proves out—some experts think drainage may present serious problems. The 60 gal. tank setup would serve a household of six to eight people. Chemically speaking, says Boester, what occurs is "wet combustion" which succeeds because of the intimate relation of the finely divided comminuted carbon of the waste matter and the oxygen in the entrained air in the tank. He explains that the key to the system is the critical quantity of air employed in relation to the volume of water in order to secure successful flush oxidation.

What this new disposal system does is move a method employed in municipal waste-disposal systems into the home. Specifically, this is the aerobic method, in which waste is first broken down into small particles, then treated with oxygen air entrained, which oxidizes it rapidly and leaves only a minor residue.

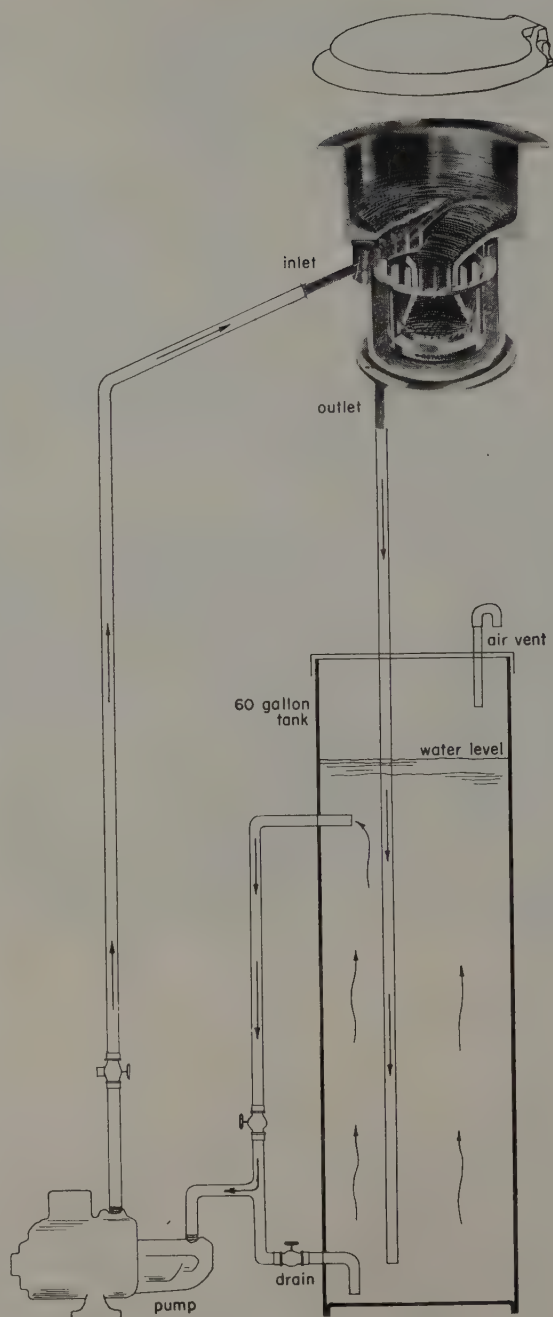
Septic tanks are expensive, inefficient

In contrast, the anaerobic method of the septic tank requires much more time, which is why septic tanks have to be such substantial structures underground. The septic tank consumes wastes bacterially in a sedimentation tank at a very slow rate, and does it incompletely. (The grass which grows over a septic tank is almost invariably lusher than the grass which adjoins it.) Only 35 to 75% of the suspended solids actually are digested in the tank, before the dissolved organic matter is distributed to the soil. And unless the tile field of the septic system is in soil underlaid with sand or gravel, the field has to be very long, and is very expensive.

Another awkwardness of the septic tank arises because the anaerobic digester is incomplete, and the substantial residue of the operation, called sludge, must be removed periodically. Most septic tanks have to be cleaned every three to five years.

Boester calculates that this new toilet and midget sewage-disposal plant will cost about \$300 complete. No mass marketing date has been set, but manufacture will be a simple process—principally assembly, because all the parts are in production today. The McPherson toilet

HOW THE SEWERLESS TOILET WORKS



Rotor in toilet bowl grinds waste, is kept spinning by the flow and reflow of water. It also induces an excessive amount of air to be introduced into the system, essential to combustion by flash oxidation. Water travels from bowl to bottom of tank by gravity, is pumped back to bowl by 1/6 hp motor.

is now made of aluminum, but Boester and Mr. McPherson think it would be practical to switch to less-scarce plastic when present aluminum stocks have been consumed. The piping of the system can be plastic tubing, tank can be ceramic or glass-lined steel.

The McPherson Co., manufacturers of the special waste-grinding toilet, sponsored investigation which suggested this development, with a grant to the Purdue Research Foundation, Purdue University, Lafayette, Ind., where Boester is housing consultant to the Purdue Research Foundation. Professor Don E. Bloodgood of the department of civil engineering at Purdue first suggested an aerobic septic tank and graduate student Robert Russell Perry studied its practicality with a long experiment which was his thesis for a masters' degree last year. In tests, the aerobic system seemed to work better than the anaerobic system. But it was not *enough* better to justify the cost of the necessary addition of an air compressor and air diffusing tube. It was only in conjunction with the special waste-grinding toilet that the whole system promised to be justified economically. Then Boester developed the closed circuit theory, with constant recirculation. The system is protected by patent.

The developers will petition FHA for acceptance, and plan to give the U. S. Public Health Service at its Cincinnati research center a model for study. Professor Bloodgood's opinion is that the new system overcomes all known pathological hazards.

EARLY FORERUNNER: AN ELIZABETHAN INVENTION

The toilet and disposal device could be used in houses with or without basements. Gravity flow would be maintained by burying the tank in the ground (the 60 gal. size measures only about 14" in diameter, is 7' high*) and since circulation is constant, there is little danger of freezing. McPherson says the over-all system is more dependable and requires less maintenance than its conventional counterpart. Power failure would put the pump and toilet out of action temporarily, but Boester says this would not cause odorous trouble in the tank. Because oxidation of wastes is immediate, there is no chance for odors to accumulate. Evaporation in the cycle is just about replenished by the water content in urine, tests have established. For larger structures like multistory apartment houses, Boester says he can work out bigger units similar to this first single family model. This toilet cannot flood. It is splashproof compared to other toilets and the motor is as quiet as an electric refrigerator.

Boester has other investigations in progress to find simpler ways than the methods now in use for disposing of other household wastes, such as evaporative disposal for bath and dishwater instead of dry wells. But this new toilet is still the biggest method he has in mind for actually conserving water. Since every time a conventional toilet is flushed, 5 to 7 gal. of water are used, he has tackled a very extravagant convention.

*Where tank is sunk in the ground, a post-hole digger can easily provide the required excavation.



Vanderehook
Sir John Harington announced his invention of the first modern valve water closet in 1596 in an "Ajax" (toilets were called "jacks"—get it?).



Sir John's invention: a plugged-in receptacle, connected to a water line with a stop cock.



The Bettmann Archive

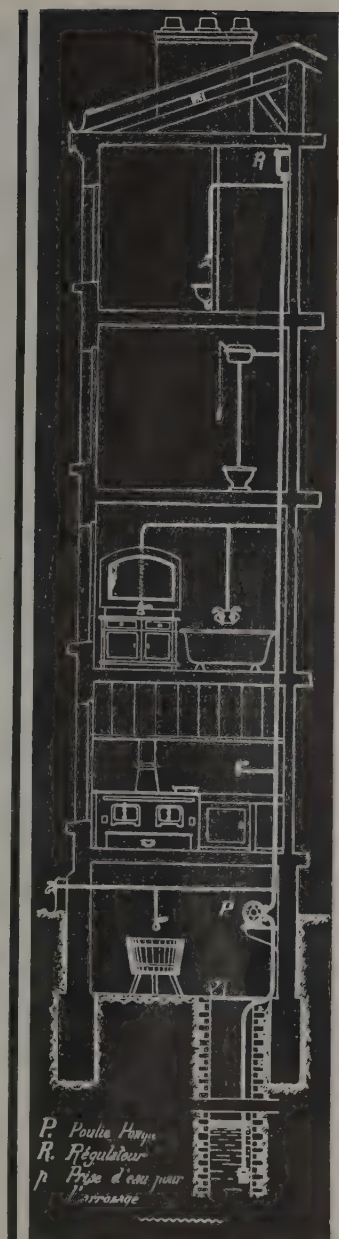


Diagram of the plumbing system of a 1915 French house shows how inextricably houses were tied to the earth and the water under the earth.

By the end of the 19th Century, water closets were housed in elaborately carved and painted wooden cabinets such as this one, made in 1880.



PARK FOREST MOVES INTO '52

**New co-operatives, new house types, schools, churches and commercial buildings
for America's biggest planned community built with private money**

Park Forest is pioneering again. The news for 1952: American Community Builders, authors of the largest community ever planned by private enterprise in the U.S., are stepping forward with a \$25 million building program, highlighted by the first big co-operative venture in the comparatively conservative Midwest.

The improved design of these row house co-operatives, in the words of architect Richard Bennett, "brings the row house up to date." (See pp. 120-121.) A thousand units are planned under Section 213 to fill what ACB President Philip Klutznick terms the "no man's land of housing"—the gap of 20% that exists in the

LOCATION: 30 mi. south of Chicago

AMERICAN COMMUNITY BUILDERS, Inc., Developers and Builders

LOEBL, SCHLOSSMAN & BENNETT, Chief Architects and Planners

ELBERT PEETS, Planning Consultant

Chicago area (and many others) between the highest income group served by public housing and the lowest income class taken care of by private building. It is significant that an operation as large and level-headed as Park Forest is going into co-ops, often regarded as a risky investment, in the face of public skepticism.

In addition, ACB plans other building that should push the whole development well over halfway towards completion of the master plan for a city of 30,000:

► Some 800-1,250 modified versions of the popular stock two-bedroom house, stripped down to sell at \$11,995. With this they hope to open up their under \$12,000 market, satisfy the demand for less

expensive homes and take advantage of the more favorable financing in this bracket. (See pp. 118-119.)

- ▶ A new \$15,000 detached home with two bedrooms and attached garage, to broaden the range of sales appeal with houses that have "a little more livability." About 100 of these are scheduled for the first unit (p. 119).
- ▶ A \$250,000 secondary shopping center with parking for 300 cars in the homes-for-sale section.
- ▶ A new department store in the existing shopping center.
- ▶ Some 60 custom-built homes in the \$20,000-\$35,000 class on 35 acres set aside at the southern end of the community.
- ▶ Churches: a United Protestant church by architects Schweikher & Elting (now under construction), an Episcopal church and a synagogue to be started this year (p. 116).
- ▶ Schools: a \$1,250,000 high school (initial capacity: 750 students) and another elementary school.
- ▶ A new building adjacent to the main shopping center to house the post office and a bank.
- ▶ A medical center which will be expanded later on in order to include a hospital.

The four major elements

As it stands now, Park Forest presents a sharp contrast to Chicago's sooty, jam-packed grid of mixed industry and housing: trim buildings, spaced for light and air along curving streets and grassy malls. Its 2,400 acres, once farmland and a golf course, are divided into four major elements (see map below):

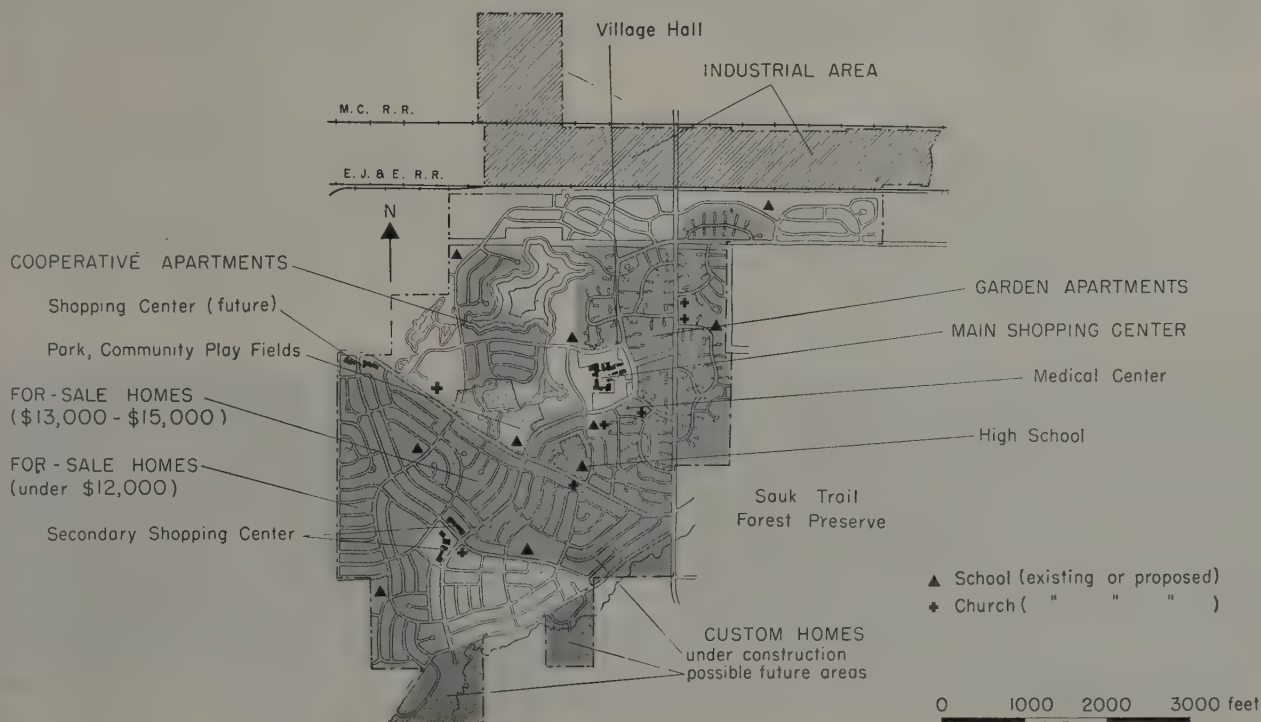
3,010 rental units (predominantly two-bedroom) in 682 two-

story garden apartment buildings, two to eight units per building. Rentals: \$75-\$117, well below the average for the Chicago area. Buildings face on wide lawns, are grouped back to back around inner courts for parking, deliveries and services. With a total of 12,000 persons living on 316 acres, the buildings are arranged in large blocks to eliminate through traffic, occupy only 11% of the ground area—a low density of ten families per acre. Each of the 105 groups has off-street parking in its court, a "tot lot" where children can play under mother's eye outside the kitchen window. Unsightly outside clotheslines are not permitted.

Almost 1,300 homes for sale have been completed; a total of 5,000 (enough for 17,500 people) are planned on 1,556 acres in the central and southern portions of Park Forest. During the past year 976 two-bedroom and 300 three-bedroom models were started, ranging in sales price from \$12,025 to \$15,000. Typical lot size, 60' x 125', is generous for this region.

Shopping center, centrally located, has 40 retail outlets totaling 120,000 sq. ft. of floor space, including the country's largest Jewel food store, a 1,100-seat theater, and virtually every type of shop and service from furniture, apparel and books to liquor store, restaurant and bar. Eventual goal: 75-100 outlets on 53 acres. At present the center is drawing a sales volume of some \$750,000 per month from a 42-mile radius. With 1,605,200 persons living in this area, ACB expects sales to rise to over \$1 million per month upon completion of new stores this year.

Industrial area—On the northern border of the community, strategically located between two main railroad lines, 475 acres have been reserved for gas-fired light industry. Instead of waiting, like the government's satellite towns until too late to lure industry, or having to build homes near already established factories, Park Forest included industry in its initial plans. A number of proposals for plant sites have been received and are now under con-



sideration by ACB. Another planned advantage of the industrial location: prevailing winds from south and southwest which now blow the smoke pall from existing South Chicago and Calumet mills away from Park Forest dwellings will also disperse the town's own future industrial fumes.

Besides these four major elements, the small city is dotted with other communal facilities: three elementary schools (eight are planned), four churches (eight are planned), a Village Hall housing administration, police and fire departments. There are nine large playgrounds, plus the tot yards and the adjacent 1,000-acre Sauk Trail Forest Preserve to the east.

The economics of town-building

When completed, Park Forest will represent a \$125 million investment, one that is already beginning to pay off in terms of hard cash. ACB has found that long-range planning, long-term profits are better than turning a quick dollar on a handful of houses and pulling out. They have proved, too, that big-scale town building is possible and profitable *without* government subsidy.

The formula they worked out: (1) First stabilize the gamble and attract potential shoppers with a "solid core" of rental housing, then (2) shift emphasis to a shopping center for major profits. (3) Plan to lure industry at the outset to provide employment for the residents and a sound economic base for the whole development. (4) Offer houses for sale after a stable community has been established.

Throughout the program, Klutznick and his board of directors have tried to broaden the base, spread the risk, diversify the investment. "You can lose money on one element, make it up on another," he explains. "Homes for sale yield the quickest profit, but the shopping center is the most reliable long-term item."

Birth of a city

The whole Park Forest idea started back in 1946, when a 70-year-old ex-banker, Carroll Sweet, sold Chicago's biggest builder, Nathan Manilow, on the concept of a "G. I. town" that would give veterans' families the amenities of modern living in the spaciousness and greenery of a park. Manilow spent a year looking at possible sites, finally came up with an ideal green belt 40 min. by commuter train from Chicago's Loop.

Then came the mammoth job of tracking down owners and heirs, buying land in piecemeal bits—quietly and mostly through intermediaries—and resettling the farmers who had made their living there. With a million-dollar investment on their hands, Sweet and Manilow presented the challenge of a dream city to Klutznick, a brilliant Omaha lawyer who had won the respect of private builders as commissioner of the Federal Public Housing Authority

during the war. Klutznick brought in able Chicago architect-planners Loeb, Schlossman & Bennett, who in turn called on Elbert Peets, designer of the renowned Greenbelt Towns near Washington, Cincinnati and Milwaukee.

At first Chicago's mortgage bankers turned pale with fright at the unprecedented size of the project, but initial financing to the tune of \$27,500,000 for the first rental units—the largest single set of mortgages ever insured by FHA—was obtained from three insurance companies.

A study of other towns such as Radburn, N. J. and the "green towns" indicated one prerequisite: the new community would have to bring sufficient population into the area right away with rental housing or the total objective might never be reached. So the first phase decided upon was 3,000 rental units and shopping center—"bringing families to stores."

An "ideal" density of ten families per acre was set up and ground broken for the first building in October of 1947. To offset the high expense of this low density, other budget items were lowered through large-scale standardization and production methods, contracting for 90% of the labor and materials at one crack before construction started.

A "civics laboratory"

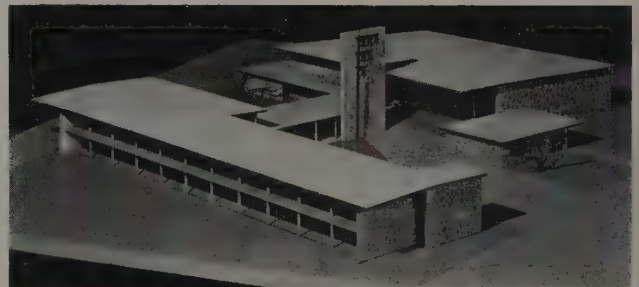
Following its original plan, ACB has advanced money for schools, police and fire departments, turned over the whole town to the inhabitants to operate and govern. More than once it has had to help the new citizens when they fumbled the ball. But, as one visiting congresswoman put it: "Park Forest is the best civics laboratory in the country." Its 15,000 residents are young and comparatively well-educated middle-income families. Average adult age is 30, income \$5,800; half of the men and one third of the women are college graduates. Under ACB's parental eye they have gone through most of the growing pains of a new community and come to a deeper understanding of local government by actually participating in it. They are aware of the uniqueness of their city and intensely proud of it. They probably have more clubs, committees and service organizations per square foot—and more children—than any other town of its size in the country.

Honors

In addition to wide national publicity, Park Forest has received official recognition from architects and builders: an award of merit last year from the Chicago Chapter, AIA, for the "best suburban multiple housing project erected in Northern Illinois since 1945" (out of 35 developments, both public and private); and one of five awards of merit in the 1951 Neighborhood Development Contest sponsored by NAHB.



Elementary school has offices, kindergarten, auditorium at left, long classroom wing at right. Boiler stack was used as clock tower.



Nearing completion is school unit (foreground) of United Protestant church. Future additions: assembly room, church-chapel, bell tower.



Main approach to Park Forest's big shopping center is up a landscaped mall towards the clock tower. All stores are air conditioned, are served by underground utilities and linked by walks permanently canopied against Chicago's sun or snow. Within the center there are no streets to cross, and a play space is available for children while mothers do their shopping.

SHOPPING CENTER

The 1,100-seat Holiday Theater serves as cinema, and temporarily as town meeting hall and church for Sunday masses. Surrounding stores, kept a uniform white with advertising subdued, are laid out for efficient merchandising methods, with no concentration of traffic or "100% locations." Gaily lighted at night, the whole center becomes a bright center of attraction to customers.



The commercial area, just west of the main boulevard through garden apartment section, accommodates shopping center, Village Hall, ACB headquarters, parking for 1,800 cars. New department store, other outlets and 1,200 more cars will go on unused land at the left.



This pleasant church for 113-member Lutheran group was community's first.

HOUSES for 1952 are conservative but are built with unique subcontracting system

Visitors to Park Forest are filled with admiration for the planning of the big project. But no one who has seen the best of merchant builder houses around the country can work up equal enthusiasm for the one-family houses.

Last summer, when construction of the masonry houses was being planned far ahead of orders, Sales Manager Jack Rashkin was asked: "How do you know you can sell this house?"

Rashkin's answer was short and confident: "Huh! We ought to know. We've been selling it in Manilow's own projects for three years!" True enough, sales ran far ahead of construction.

Few builders would start a big new project with a house design three or four years old. But this conservatism in design reflects several basic attitudes: Park Forest was going to be so large, and Klutznick and Manilow had so much at stake, they could not afford to take chances with an untested house any more than they could take chances with trouble from FHA or labor.

They wanted to be sure of everything, and one thing they were positive about: Chicagoans liked the house Manilow had been building in his own developments. In fact, people still like it today. When word got around last fall that Manilow had bought enough land in nearby Des Plaines for 500 houses, he says he had 3,000 letters requesting him to build "the Manilow house." The new \$15,000 house for 1952 (*lower right, opposite page*) is the old house with a bit of face lifting and a garage added. The other new house at \$11,995 is so close a descendant a visitor has to look twice to see whether it is parent or offspring.

Park Forest is still building a two-bedroom house though most builders have concluded that size is too small except for really low cost designs. There is enough lost space in the utility room and laundry to make a third bedroom, especially if a more compact heater and hot water tank were used.

Construction methods are efficient

While its house designs are conservative, Park Forest's construction methods are efficient—the result of many years of trial and error. Vice-president in charge of construction is Joe Goldman, an architect by training but a hard-headed builder by experience. He and Manilow have tried nearly everything.

One of the most important trade secrets at Park Forest is its subcontracting system. They use numerous small subs in a trade rather than one big contractor. Goldman believes it is better to have eight mason contractors than one. He uses seven carpenter contractors, two for heating, two for plumbing and one each for roofing, sheet metal, painting, glazing, electrical work.

Goldman has put about 60% of these men in business and guides their operations with a fatherly hand, doing much of the buying in large quantities and selling to the subs. He is sure they are the right size for greatest efficiency.

Competition is keen between the eight masonry contractors because each gets paid a fixed rate per house and each tries to keep his production high. A sub's men are working for a boss they know and call by his first name. They work harder than if they were employed by an unknown boss along with hundreds of men.



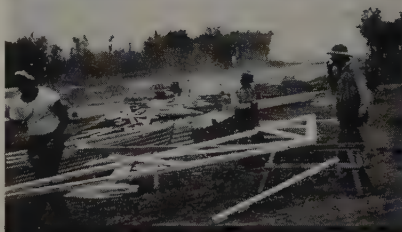
Same slab foundation served prefabricated and masonry houses.



Prefab wall panels came by truck from Milwaukee Expandable Homes, Inc.



Small field crew rapidly set up panels. The inside walls were also prefabricated.



Roof trusses came pre-cut, were assembled at each house.



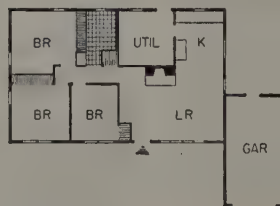
Erecting trusses was matter of only a few minutes and roof sheathing was done just as fast.



Speed of getting house enclosed was greatest advantage in use of prefabs.



Finished house with three bedrooms and garage was popular.



Park Forest went into prefabs in an effort to make up for delays caused by a terrible winter and a wet spring. Prefabs were no cheaper, but they could be put up faster with same supervisory and field force. After initial order for 300, no more were ordered.



"One main secret of lowering costs," Goldman says, "is not to handle materials more than once. Site mills and prefabrication are costly due to the number of times material is handled. Our method is to have suppliers deliver required lumber for each unit to the house. Moving from one building to the next, we cut the material with electric saws, installing it as we cut. Each crew is responsible for the lumber. Instead of one production line, we have ten separate line production crews in different areas, creating competition between them for production as well as quality of work.

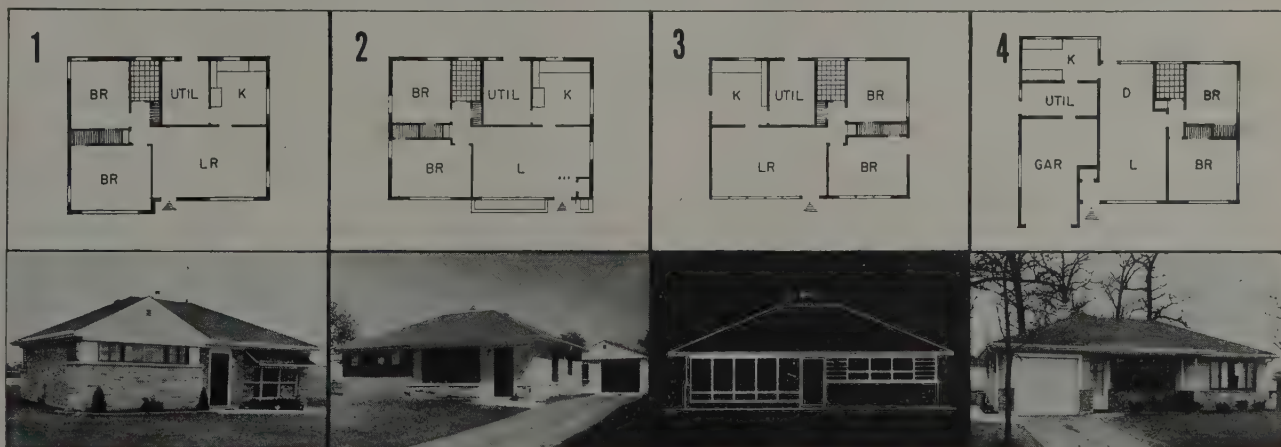
"One of our largest savings is in utilities and sidewalks. We install a combination sidewalk and roll type curb, eliminating the parkway and bringing our houses closer to the street. This reduces the cost of bringing in sewer and water and also saves 12' of copper pipe and sewer tile. We bring one sewer and water service in on every other lot line and then branch off for two houses. This saves 50% of water and sewer stubs."

Co-ordination of all elements on the job is one of the most important factors, Goldman believes. Carpentry subcontractors work for \$100 less per house because they know they won't be delayed by other trades.

Park Forest built a dozen experimental houses last spring to try out materials and methods. They built several prefabs, experimented with steel panels, plaster inside and out, mixtures of masonry and wood, steel studs with metal lath and plaster, concrete block. They then bought 300 prefabricated houses in Milwaukee to help make up for lost time due to bad weather.

Curved streets and many trees give this section of Park Forest a handsome background for the brick and stone houses which are a trademark of the community. Setback is 25'. Houses are on 60' x 120' lots, considerably larger than most projects within the Chicago area. A two-bedroom, no garage house costs \$13,000.

1. This is standard masonry house, selling for \$13,025 to \$13,575 depending on amount of exterior stone and brick. 2. Another of the same type, to which buyer has added a garage at his own expense. 3. This is the new, "stripped-down" version about to go on sale for \$11,995, with slightly less equipment than earlier models. 4. This is the new \$15,000 house with garage. It has approximately 950 sq. ft. plus garage. Old design, bad planning notwithstanding, Park Forest homes sell fast to Chicagoans.



ROW HOUSES for 1952 have fresh design, new co-op financing

Philip Klutznick and Nathan Manilow have made three basic decisions that will interest the building industry. Still happy over their rental units and while continuing their one-family houses (see page 119), they decided:

1. *Section 213 co-operatives offer the best way to deliver more floor space at lower down payments and with lower monthly installments.*
2. *Row houses are the best bet of the several types of housing permissible under Section 213.*
3. *A better, more livable row house should be built.*

The fact that the savvy, experienced Park Forest management is starting co-operative row houses for some 1,000 families when most builders and mortgage bankers look warily at co-operatives means that this experiment will be closely watched. Two demonstration rows of houses are being built this spring and construction will then be pushed as sales are made.

To get a fresh, 1952 version of a row house, Klutznick and Manilow asked their architects Loebl, Schlossman & Bennett for new designs. The new houses (*opposite page*) have a number of improvements over the older apartments designed by the same firm in 1947 (*photo below*)

"We believe these new houses reflect the way people want to live today," said architect Richard Bennett recently. "They overcome many defects in older row houses. These recognize the automobile and the garbage disposer. We have given every family a carport, and the garbage disposer lets us have clean back yards."

After three years of experience with the rental units, the concept of what is "front" and "back" has been reversed. In the older rental units, cars were parked at the back of the houses and families, delivery boys, and even guests (after their first visit) used the rear service door leading to the kitchen. The main entrance door was at the front of the apartment which faced an open, grassy area limited to pedestrians.

In the new houses the front door is on the street. Cars are parked here, delivery boys and guests will use this door. The

rear of the house faces the open area and the only door here leads to the family's outdoor living area. In both old and new houses, living and dining rooms face the open area.

The big difference in designs is that in the old rental houses the open area belonged to the community; in the new houses every family owns a 25' strip running to the rear property line, (more for end units) where they may have a private terrace or garden if they choose. Park Forest management will leave to the co-operatives the job of defining how families use the rear area.

No chopped-off ends

"Another change in our design," said Bennett, "is that these are among the first row houses in which the ends are designed. One reason row houses usually look bad is that the ends seem chopped off." Use of a one-story bedroom and a carport at the end give these row houses an attractive appearance.

Size of the new units is also different. The older apartments had one, two or three bedrooms. The new designs have three bedrooms in the center houses, four in the end. The four-bedroom unit is a direct result of requests from fast growing families now in the rental apartments who need more space.

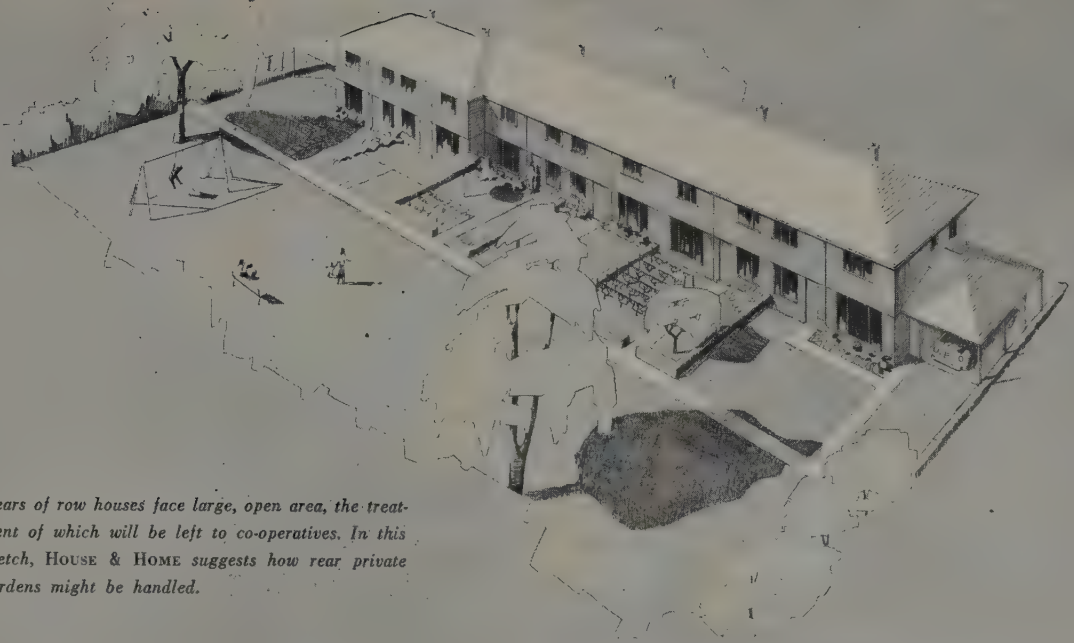
Center houses have approximately 1,130 sq. ft. of floor space (no basements) plus a carport and about 20 sq. ft. of outside storage. These will cost about \$12,000 (final prices are not yet fixed), with about \$700 down. End houses have approximately 1,330 sq. ft. plus carport and 56 sq. ft. of outside storage. These larger houses will sell for about \$14,000.

Houses will be masonry construction on the first floor, frame on the second. First floor exterior walls will be brick with a 4" concrete block backup. Each family will have its own gas-fired hot water boiler with radiant heat in the first floor slab and baseboard radiators on the second floor.

Interior stud walls will have 1/2" plasterboard with aluminum foil on one side. Asphalt tile will be used on both floors. Interior doors are 20-gauge steel, with 16-gauge steel frames. Windows are steel casement. Kitchens are fully equipped.

Large open areas with fine play space for children have brought Park Forest apartments many commendations.





Rears of row houses face large, open area, the treatment of which will be left to co-operatives. In this sketch, HOUSE & HOME suggests how rear private gardens might be handled.



This design, with carports and careful treatment of ends, "has brought the row house up to date," say its architects, Loebl, Schlossman & Bennett. End houses have four bedrooms.

Rigid interest rates won't work— How long must the government's present cheap money policy fail

by economist Miles L. Colean

before we realize that no one but the veteran stands to lose by it?

The only way to assure that a mortgage system will work is to provide it with a market rate of interest. Yet as the government gets itself deeper and deeper into the mortgage business the idea grows that:

1. • Mortgage interest rates can be set by law at a level thought beneficial to special groups of borrowers and

2. Lenders ought to adhere to the prescribed rate as a matter of social obligation without reference to the state of the money market. (Note: this point of view ignores the obligation the lending institution has to people whose funds it handles.)

Because veterans deserve special consideration, government sets special interest rates for guaranteed loans to veterans.

Because co-operatives ought to be encouraged, government makes special rates for FHA insured loans for co-operative housings.

Because defense workers shouldn't pay high rates, government sets special rates for their loans.

These "because's" may be worthy, but they don't influence the market one iota.

What is the result of rigid interest rates?

It took years to learn the answer because for a long time the conflict between these welfare concepts and market concepts was concealed by **the government's cheap money policy which forced the whole structure of interest rates down.** The special rates were low but not below the market rate of interest. Since 1946, however, market rates have gradually risen until the fixed rates are no longer attractive in the market.

The veterans' guaranteed loan unquestionably has a lot to recommend it:

The investor faces practically no risk.

He need not be concerned with waste.

In case of foreclosure he collects promptly, in cash.

Naturally these guarantees add up to a lower interest rate than would accrue to ordinary loans. But that's not the whole story. It doesn't mean that a rate which satisfied the market yesterday will satisfy it forever. This holds true of *all* types of investment: government bonds, for instance (if investors are to hold on to the ones they own and buy more).

What a flexible rate does

Short of setting up a politico-economic dictatorship, there's only one way to decide who's going to get the money and at

what rates. That is, let borrowers bid for a share of the invariably limited funds available. Even a dictator would think twice before he fixed rates for one class of loan and left the rest to compete freely. If he were to guess wrong and fix too low a rate, his protected loans would just starve for funds and higher bidders would get the money. To offset this there are two avenues open: 1) allow the rates to move or 2) support a fixed rate by pouring in government credit. To do the second of these in a time of deficit financing is to pave the way to dangerous inflation.

How the rigid rate started and where it went

Deep-seated though the fixed interest idea seems, it is new. A maximum rate was put into the FHA Act merely to prevent usury. Even so, some FHA originators thought it a mistake to mention interest rates at all, felt that the market and state usury laws were safeguards enough. The rate for the first FHA loans—5% plus $\frac{1}{2}\%$ mortgage insurance, plus $\frac{1}{2}\%$ annual service charge, making an effective rate of 6%—was fixed only after a careful check of the market. This proved satisfactory in spite of tight money conditions still prevalent at the end of 1934. But after that FHA activity reflected the gradual decline of the whole structure of rates. First, competition for loans drove out the special annual service charge.

Then lenders began to pay premiums for FHA loans.

Here was an unexpected development: the premium rate rarely went to the actual borrower. The builder might get it from the bank or mortgage company to which he brought the business. Or the original lender got it from another bank or insurance company to which he sold the loan. The borrower generally paid the prescribed 5% interest. What this meant was that the FHA maximum interest rate was not actually above the market rate. So FHA authorities pulled the maximum down to $4\frac{1}{2}\%$.

Many people still think homeowners could have obtained lower rates on FHA loans if there'd been no maximum. Their argument: the stated rate made it easier to persuade the borrower to pay the full rate, no matter what. Their evidence: rates on uninsured loans did move down with the market, created no premium problem.

FHA followed the market

FHA revised its rate only when it was inescapably clear that the market had changed. It didn't try to lead or coerce the market, nor claim sanctity for particular rates. Following this principle, it later lowered the rate to $4\frac{1}{4}\%$. And its announced policy still is that it will reverse itself whenever it is convinced that the facts call for change.

VA rate not intended to be untouchable

Probably the same sort of thinking applied when the veterans' guaranteed loan system was set up. But the 4% maximum

was so low in the easy money days of 1944, it was doubtful that it would turn out to be a going rate. However, as long as the Federal Reserve Board arbitrarily maintained a low yield on government bonds, the 4% VA rate remained relatively popular.

But even in active times, the 4% rate proved vulnerable. In the first place substantial premiums didn't develop (as they had with FHA). And, in 1948 there was a rapid shift from guaranteed VA mortgages to investments that yielded more although the general interest rate structure rose only slightly. The shift was so decisive that in August 1948 Congress authorized VA, with the concurrence of the Treasury, to up its maximum rate to 4½%. What Congress evidently had in mind was to keep the VA guaranteed loan in competition with other investments in a tighter money market. Clearly it took the view that the rate was not untouchable.

But the rate was not changed. Trouble began to mount as VA loans continued a drug on the market. To cope with it: In October, 1949 the power of FNMA to buy VA loans was greatly liberalized so that 4% money would be channeled through private hands.

In April, 1950 Congress went further still, authorized the VA to make loans directly at 4% where private money had not been made available.

Now for the first time, the dogma of the sanctity of the 4% rate was enunciated; and the facts of mortgage financing ceased to be considered.

The rigid rate theory breaks down

Liberal operation of FNMA coupled with the Federal Reserve Board's 1949 resumption of an easy money policy and the scare buying caused by the Korean crisis quieted the interest rate problem during the lush year 1950.

Finally, in the teeth of inflationary excesses, FRB faced up to the situation with its historic money-tightening action of March 4, 1951. Result: the flow of funds for VA loans not already committed upon was reduced to a trickle. At the time it was widely thought that when the shock was over and the huge volume of outstanding commitments had been "digested," the rapid accumulation of new savings would cause lenders again to seek VA loans at the 4% rate. During the late summer of 1951, yields on long-term government and corporate bonds slowly declined, giving some hope for this solution. By mid-October, however, the bond trend had once more swung upward and at the year's end new highs were reached.

Even credit restrictions failed to lower the demand for mortgage money for conventional loans and the volume of industry loans exceeded anticipations. Borrowers needed more money than lenders had to give them.

A new factor promised to keep demands of corporate borrowers at a high level: the excess profits tax.

What the tax does to the money market

1. It absorbs earnings that would otherwise go into capital expansion (ordinarily earnings are used more than borrowings for this purpose).
2. It makes new equity financing impracticable.
3. It actually makes borrowing profitable for firms in the excess profits category.

It follows that a larger share of corporate financing in 1952 will probably be done by borrowing than has been the case in previous years. Nor will the borrowers be deterred by a high rate, as recent corporate issues carrying interest as high as 3¾% indicate.

VA refuses to face facts

In the face of this situation all that VA did was to protest the advantages of its system (about which few would argue) and insist that consequently 4% was a proper rate—to which the market did not respond. Hope that conditions would ease grew dimmer. The future of a privately financed VA program depended on the dubious chance of its conforming to market conditions that grew steadily more adverse.

It's the veterans who lose

Veterans are promised the benefits of low down payments, long amortization periods and a specially favorable interest rate, but the promise is illusory unless the benefits are available at all times. If the officially established rate is so rigid that it prevents the system from working when money is tight, he gains nothing. The veteran (unlike other borrowers) becomes the victim if the deprivations of the counter-inflationary policy fall disproportionately on his shoulders. No one but the veteran loses by the present policy. The lender has no trouble making loans to higher bidders. The builder is still able to sell all the houses for which he can get the necessary materials.

But the veteran is not permitted to obtain the VA advantages promised him by paying ¼% to ½% more than the present rate of interest (about 14 to 27 cents per \$1,000 per month). Instead he must make both the higher down payment required in the conventional market and also pay 5% interest or higher. A similar situation is dogging the financing of the FHA rigid 4¼% mortgage in defense areas.

Canada cut the Gordian knot

Faced, as we were after the beginning of the Korean War, with the need to dampen inflation, Canada slapped on credit restrictions even more drastic than ours, and at the same time raised the maximum interest rate on its government-participation loan program. This action balanced activity in the mortgage market and assured that no one type of borrowing would be penalized more than another.

How long must out present policy fail before we revise it? Fears that the VA rate, once raised, could not be lowered if conditions warranted, are certainly disproved by FHA experience. What is clearly needed with respect not only to VA loans, defense area loans, and all other forms of government participation is an honest policy of following the market *up or down*. Rigid rates in free economy, whose very nature is to be elastic, can work only by accident. They are not working now.

Almost a year has passed and the failure to face the facts of the present market has become chronic. Neither through FNMA nor any other means can the government garner sufficient funds to support the VA program or the defense housing program at sub-market rates.

It is time for government to face this issue.

20 GARAGE IDEAS TO SELL BUILDERS' HOUSES

The "car stall" can be planned as a plus value in living space and looks

The garage or carport is the greatest undeveloped sales asset of most merchant builders' houses: from 200 to 400 sq. ft. of golden space waiting to be improved. With good advance planning, it can add several hundred dollars to the value of a house—and sell it faster.

To show what can be done, here and on the following four pages are 20 good ideas. They come from houses scattered from coast to coast. Some of the ideas are simple, a few are frankly expensive. Some are by builders, most by architects. But any one of them could be modified and adapted by a smart builder, and each shows one or more of the important things a good garage or carport can do for a house:

- ▶ It can provide extra living area. If anything is at a premium in small houses, it is space, and it is far cheaper to add space to the garage or carport than to the house.
- ▶ It can provide storage facilities for today's basementless, atticless houses. The enclosed garage can solve the problem of where to put things neatly, behind doors, so that rakes, tools and junk are stored out of sight.
- ▶ It can increase the apparent size and enhance the over-all design of a small house, and help unite house and grounds.

Architect Herman York, of Matern & York, who designs for more than 80 builders, adds that he thinks the garage has untouched possibilities only if a thorough job is done: "We feel that you

have to make a big splash. Making the garage a big selling feature can pay off handsomely, but just putting in a few storage shelves and nails on which to hang the garden tools won't make a dent on the public—and I don't see why it should."

Garages and carports—as multipurpose rooms

All six examples on these two pages show how a garage or carport can be planned to double as an extra room. If the inside of the garage is open and attractive, it can be used as a summer porch, a shaded play area for children, an overflow room for big parties. In warm climates this may work year-round; even in the north it works all summer (longer if the garage is well oriented) when the car can be left outside.

But to capitalize on such a feature, the smart builder goes one step further than merely explaining this multi-usefulness. He furnishes his model so that buyers can see for themselves that garage space can do more than hold a car and a lawn mover.

What have you done about the garage?

HOUSE & HOME would like to hear about what you've done to make garage or carport a real selling point.

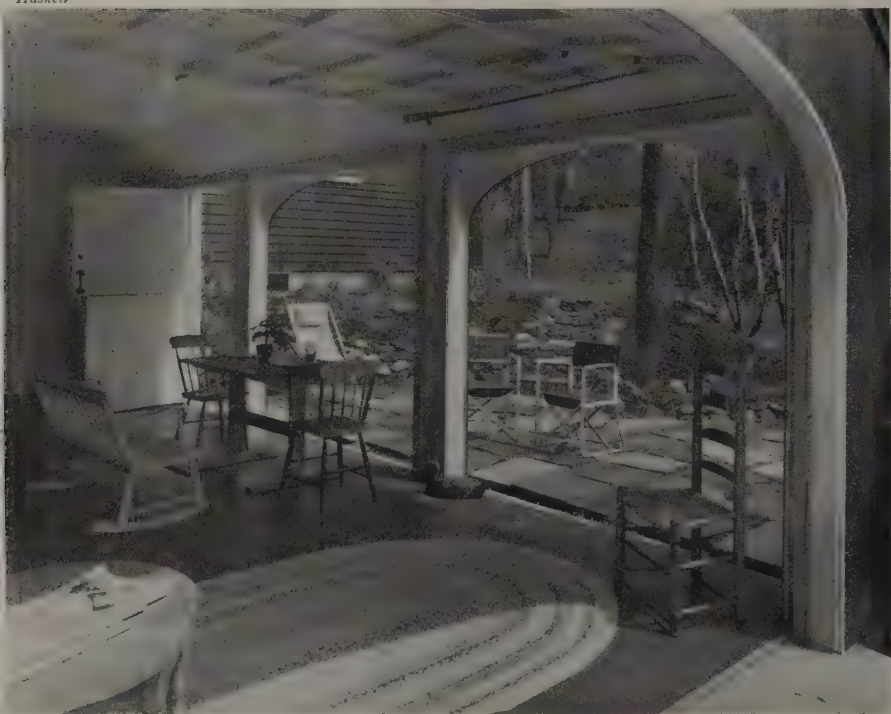
Have you used it as a design feature, as an extra room, as well-planned storage space?

Have you found new ways to economize on its construction?

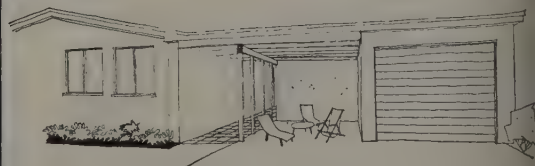
Has it paid off in dollars and cents?

Write and tell us about your ideas, enclose pictures and plans if possible, and we'll publish the best of them.

Haskell



1. Porch in summer, garage in winter: Even in a northern climate, a garage can double as living area for three or four months a year when car is left outside. This Massachusetts house by Royal Barry Wills has a garage with removable side sections opening to a terrace, an overhead door on driveway side. Garage enlarges the house.



2. Combination carport-garage: By offering buyers a choice of double carport, double garage, or one of each, Lacy & White of San Francisco created a real sales feature adaptable to individual pocketbook and family needs. Combination shown is a garage plus carport-porch.

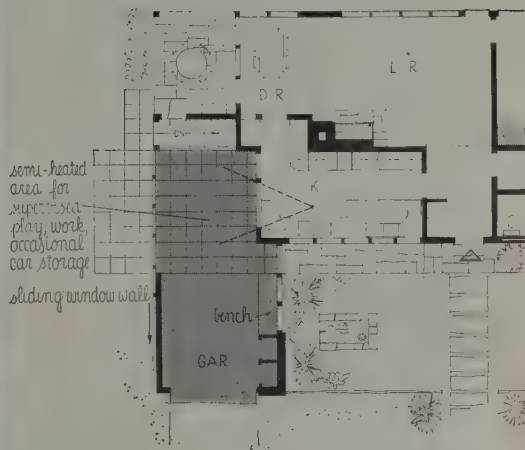


Rodney McCay Morgan—Photolog

3. Play space-carport: Neatly placed in the angle formed by kitchen (right) and dining area (window), this carport provides easily supervised play space and large storage cabinets at rear. By Alfred Parker, Miami, Fla.

4. Porch-carport-storage: Nearly double-width carport (below) by Johnson & Whitcomb has three usable areas: enclosed storage room (left side), open storage space for cordwood and carport-summer porch. In Massachusetts.

Dearborn-Massar



5. Heated play-work area: Into this Long Island garage, architects Matern & York have fitted 1) play area with sliding window wall and separately zoned radiant heating in slab; 2) tool bench; 3) two closets. Walls are placed to serve as wind buffers for outdoor living areas.

Leonard Delano Studios



6. Bar-utility room-garage: In a basementless house, garage can well double as play and utility rooms. This one, by architect James C. Gardiner for a house in Portland, Ore., has completely equipped—though incongruously designed—knotty pine bar, hot water heater and washing machine (behind bar), heating plant. One wall has big windows and door leading to garden, makes space double for indoor-outdoor summer cocktail parties.

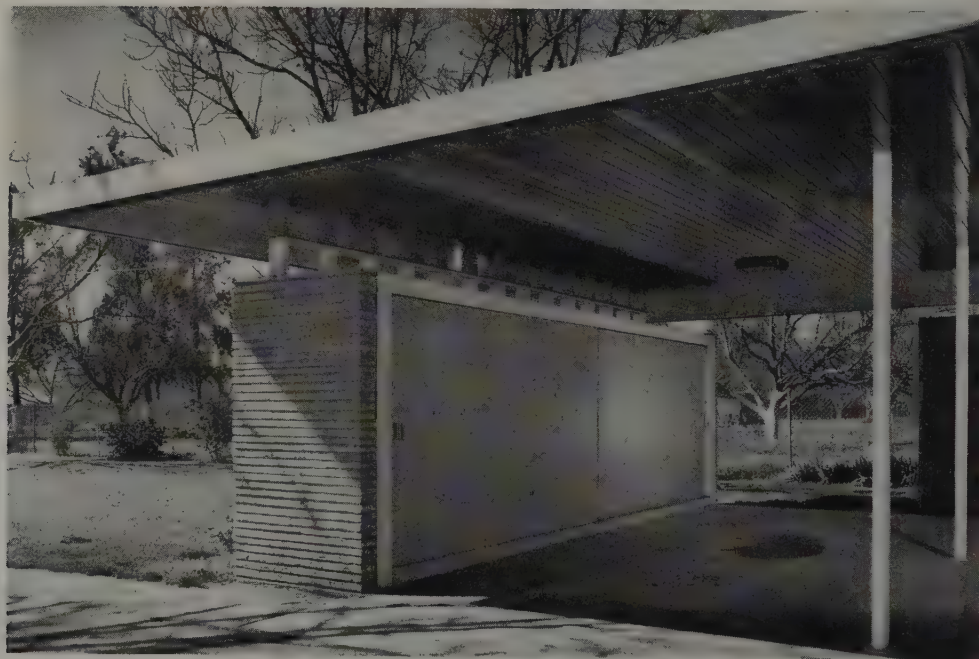
Garages and Carports as storage space

By providing storage space in the garage a smart builder can not only solve the tough problem of where to put things in a basement-less, atticless house; he can also provide space for sports equipment *where it logically belongs*—next to the car that takes the family to golf course or ski slope. This storage space can be strictly utilitarian and achieved at minimum cost. For example, an 18" deep cabinet can be built along the entire side wall of a standard-size garage, equipped with sliding doors so it is accessible even with the car inside. Or, as in the carport below, a storage wall can be made a handsome and important architectural feature.

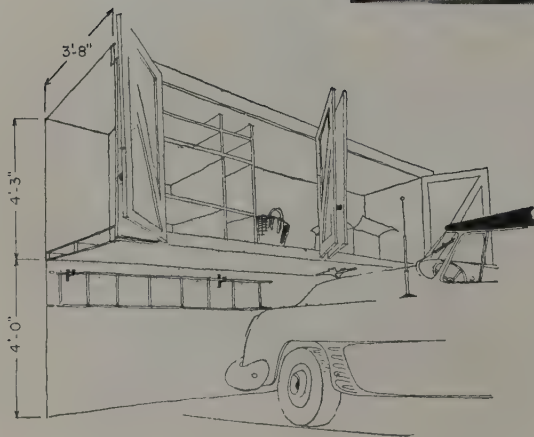


7. Completely storage-walled: Builder Frank Sheldon's own garage, in Los Angeles, has three walls lined with well planned closets and cupboards. Such a thorough job might cost several hundred dollars, but it would sell the house; even a little storage is a sales asset.

Julius Shulman



8. Carport storage wall: This storage wall custom-designed by Abe Grossman, Los Angeles, could be adapted by builders anywhere. It is an important design asset, makes the house seem wider; at the same time it provides about 700 cu. ft. of space, behind sliding panels.



9. Over-hood storage: There is always room for storage above hood of car. Two-car garage (left) has cupboards 44" deep, 51" high—total, 265 cu. ft. and no floor space used! Framing is 2 x 4's suspended from ceiling, bottom is plywood, side walls and fronts are inexpensive hard-board. A merchant builder could add this sales feature at very low cost.

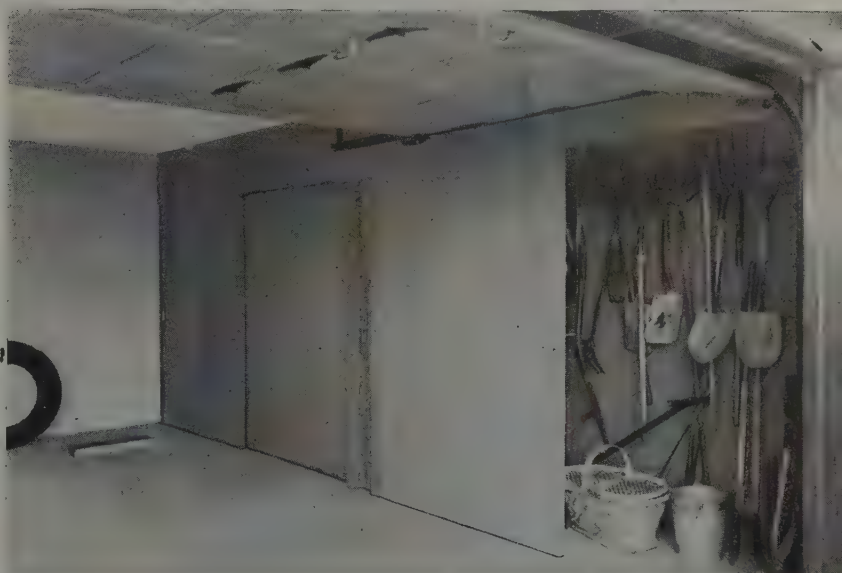


Rodney McCay Morgan—Photolog

10. Carport-storage compartmented: *This free-standing storage wall is in Florida, but could work well in many parts of the country. It is good looking, and neatly planned with sections for garden tools, sports equipment, etc. By architects Twitchell and Rudolph.*



11. Folding stairs to overhead storage: *To make full use of any overhead space in a gable-roof garage, a folding stairway can be installed. These come in a variety of stock widths and heights, take up no space when not in use, cost as little as \$30.*



12. Standard-size garage with storage space: *Entire side wall of garage is lined with 18" deep storage closets; sliding doors (about \$75) take up no floor space. Extra advantage: even when garage doors are wide open, tools and miscellany are not exposed.*

Garages and Carports as design features

To increase the apparent size and enhance the looks of a small house—without hiking its price—smart builders pay careful attention to the placement and design of garage or carport. If the lot is wide, a side garage, either attached to the house or connected by a breezeway-porch, can make even a boxy house seem desirably long and relate it to its lot. If the lot is narrow, an up-front garage can screen the house from the street. If house and garage form an L or U, a secluded courtyard can be achieved. In many cases, good garage placement, along with suitable landscaping, can give a small house the grace of a larger place.



13. Covered entrance-carport: In straight-forward treatment (left), architect Kenneth Welch put the carport right at front door of his Michigan house. It is 24' wide, provides a covered entrance. Wood is stored on a low concrete platform at rear, which also serves as bumper for front tires. Turn-around space is big, the driveway economically short.



14. Throughway carport: Levitt's new \$17,000 house in Pennsylvania (H&H, Feb. '52) has the carport attached at side (or at an angle in front) to make house look wider. It has an 8' x 9' storage room at rear left; area between this and house can double as a porch or rainy day shelter for outdoor furniture. (There is a paved terrace at back, to the right.)

Esra Stoller—Pictor



15. Up-front garage: It supplies a long, narrow-front house with a dignified facade. The wide overhanging roof is an economical continuation of house roof; it creates one covered walk to entry, another direct to living room. Plentiful light is supplied by modern version of New England transom-light. Garage gives house privacy from street. Designed by architect Hugh Stubbins, for a house in Massachusetts.

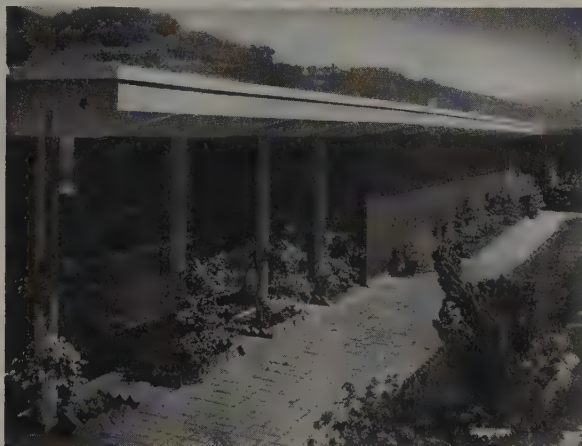
16. Carport-porch: For a house in Portland, Ore., architect John F. Whelen put the carport right next to living room window wall, used the top of the low brick carport wall as a planting box (less expensive and more effective than a higher wall). When car stands out during summer, carport is a living and dining porch.



Leonard Delano Studio; Roger Sturtevant; Julius Shulman; Ernest Graham; Deaborn Massar



17. Garden-enclosing carport: For a house in Portland, Ore., Pietro Belluschi used carport and covered walk to frame a garden, and link house, right, and kitchen, left



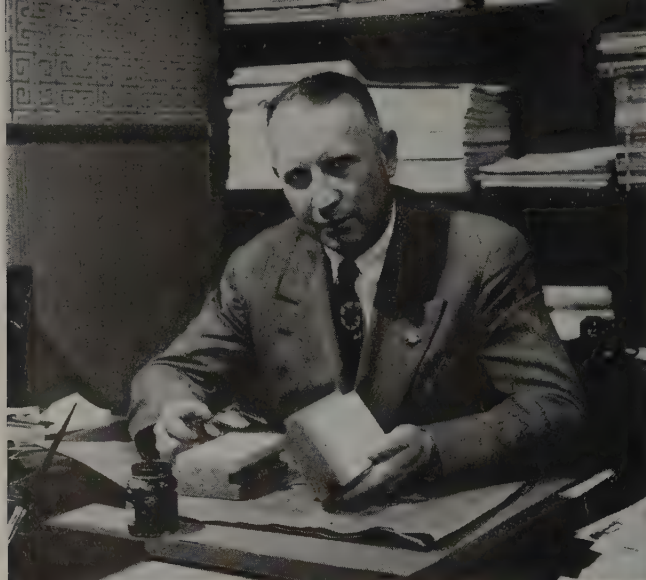
18. Carport-covered walk with planting: Planting in time will hide posts of this carport by Gordon Drake for house in Los Angeles. At rear, parking for four guests' cars.



19. House-extending carport: Covered walk and flagstone-paved court tie garage to small house in Seattle, by architects Bassetti & Morse. Storage wall at side of carport.



20. Trellised carport-walk: They form U with Florida house by Robert Little. For a big lot, this arrangement is impressive, and gives the feeling of a small, private estate.



Photos: Joern Gerdis

1952 promises to be one of housing's toughest years. NAHB, come of age, has flexed its biceps and found them chained to government controls. Membership has burgeoned to a new high of 25,000, but in output it won't be allowed to approach the record volume of house starts set in 1950. Homebuilders, who have a chronic tendency to regard every pinch as "Our Greatest Crisis," may indeed be facing one of the more challenging situations of their ten-year history as an organized industry: how to build more homes for a still-hungry market—with less metal, not enough mortgage money.

At their recent Chicago elections, it took NAHB's 200-odd directors exactly 30 seconds to hand the bulk of this assignment to a smiling housebuilder from Salt Lake City, Alan Elliot Brockbank.

NAHB's new president, at 48, is blue-eyed and deceptively boyish-looking, with a quick laugh and an engaging way of saying "folks" and "by golly" from a speakers' rostrum. He has that lucky blend of informality and earnest enthusiasm that usually begets co-operation, whether he is dealing with carpenters on the job or reluctant senators on the hill.

Underlying this personable exterior is Brockbank's main asset: an affinity for hard, thorough work. Since he joined the old Home Builders Institute as a charter member in 1941, Brockbank has quietly devoted an increasing segment of his time to the gamut of NAHB's committees and offices, from the little jobs on up. As first vice president, he spent close to half of last year as Bill Atkinson's stand-in, stumping the country and appearing in Washington, at his own expense. As NAHB president he will probably see home even less.

His industry's official representative, Brockbank is also highly representative of it as an individual—a medium-sized operator (about 100 houses a year). In the words of one longtime NAHB associate: "Alan is Mr. Average Joe Builder, U. S. A., a combination of the old on-the-job supervising contractor and the new up-to-date merchant builder." From others, he has merited the time-worn accolade: "A builder's builder." But if his volume is average, his standards are considerably higher (see page 132).

Homebuilder BROCKBANK

NAHB's new president—the man for the year?



Brockbank and foremen talk blueprints on the job

NAHB's program and policy for 1952 bears the Brockbank stamp to no small degree, sets goals that he has been steering toward for years. Point by point, the industry plans to:

► **Give "top priority" to defense and military housing.** Of all members, Brockbank probably comes closest to being an authority in this line, having set up and led a 77-man "watchdog" committee that is currently attempting to break housing bottlenecks in critical areas, beat public housing to the draw.

► **Fight the "socialistic subsidized housing program"** by encouraging builders to do a better job in low rental housing before government steps in and does it for them. To Brockbank, the grandson of simple, industrious Mormon pioneers, the issue is clear and his conviction rocklike: "A man must acquire the good things in life through the toil and sweat of his own hands. No government or well meaning group of people can give these things to him."

► **"Weed out the shysters" in homebuilding** who have failed to live up to the industry's code of ethics. In part due to Brockbank's work, NAHB is adopting a homeowners' service policy which all builder-members will be required to give their customers (under penalty of expulsion from the association). Modeled after the policy given Cadillac car buyers, it will guarantee the owner that all reasonable and necessary repairs will be made without cost within six months after delivery of the house. Along with this formal warranty, NAHB recommends furnishing a homeowners' service manual that will help the buyer take care of his own home, and is distributing prototypes that can be tailored to local conditions and reprinted.

Missions

As an individual much of Brockbank's philosophy stems from hard-working forefathers who came across the plains in covered wagons to build Utah out of the wilderness in the days of Brigham Young. Great-grandfather William Howard operated mule-drawn freight wagons and Utah's first leather tannery. Grandfather Isaac was a railroad and excavation subcontractor, builder and realtor who surveyed and laid out the town of Spanish Fork, Utah.

An honor student at Salt Lake public and high schools, young Alan went on to study industrial engineering at the University of Utah. An attack of smallpox forced him to leave halfway through, freshman year, and on recuperating he took three years off to work as an engineering draftsman for Kennecott Copper.

Like many other conscientious young Mormons, Brockbank had been trained as a lay priest. So he now found himself called from the "reserve" to South Carolina. With the help of his father, a Salt Lake auditor and auto dealer, he financed himself while he looked after sick people, preached the revelation of the Latter Day Saints from door to door and on the street corners of up-country mill villages.

Two years later, Brockbank came home to finish college, put himself through with a part-time job selling electrical appliances. During his junior year he was elected president of his fraternity and met Gaylie Rich, a bright-eyed co-ed who later became his wife.

After graduation in 1933, Brockbank went to work for his father-in-law-to-be, who was then local director of RFC's Regional Agricultural Credit Corp. It was about this time that he got his first taste of building: when his own father couldn't find a contractor to build the house he had designed for himself, the younger Brockbank hired and supervised the craftsmen for the job. He found it so interesting he formed Modern Homes, Inc., which went on to build other individual houses in the area.

. . . . and mortgages

While chief of RACC's mortgage department, Brockbank became a close friend of Franklin Richards, then in the legal branch of the agency. When the latter was appointed Utah state director of the new Federal Housing Administration, Brockbank went to work for him as a mortgage risk examiner and later as a valuator.

No one-job man, he soon joined a lumber and construction firm, which he later bought out to form Alan E. Brockbank, Inc., and a cinder block plant, which he started in the belief that lightweight aggregates would become the building materials of the near future. Building men told him he was off the track, and soon after he was forced to withdraw when he found it was interfering with his FHA work. Volcanic block from Brockbank's old mine is now one of Utah's big industries, and he is investigating new deposits of both cinder and copper in central and southern Utah.

Brockbank's main interest now, aside from NAHB, is his big Rose Park Development in Salt Lake City (*next page*). Partner and most effective supporter in all ventures is his tall, handsome wife Gaylie, former Junior League president and active community worker. (She is also one of the 2,000-odd descendants of Mormon Charles C. Rich, who arrived by wagon train in 1847 with six wives and set about populating Utah.)

Family man Brockbank spends his leisure time at home with offspring Gaylie Anne, 15, and Grover Rich, 10, his week ends in the garden cultivating a prize rose collection. Occasionally he plays a little golf or tennis, and he never misses a football game anywhere near Salt Lake. Major domestic ambition is to build a beautiful yard around his home, a \$40,000 brick house in the city's fashionable Country Club Heights. (He built it in 1948 as

one of the 77 Blandings Dream Houses constructed across the country to publicize Selznick's movie, moved in himself when he found no buyers.)

Not much of a home-town politician, Brockbank got sufficiently disturbed by the "socialistic activities" of local Democrats to turn Republican eight years ago, has worked to oust his former college professor, Elbert Thomas, and help elect Senator Wallace Bennett.

Brockbank is big (6'-0", 194 lbs.), mild-mannered, a nonsmoker and nondrinker, who gets along with almost everyone. But he moves fast, talks well and vigorously, and has the ideas and drive not always found in an essentially conservative community. As one of the founders of the Utah Home Builders Association, he has set out to improve local building and living standards, has plumped continually for more mortgage money, especially scarce in his state.



Alan and Gaylie Brockbank posed for photographers and well-wishers after his election to NAHB presidency.

Joe Builder vs. Jerry Builder—exit pickle-packer?

As NAHB president, Brockbank is out to clean house this year, and it's a good bet he'll get some of his broom work done. With more builders building than ever before, he wants to improve the *quality* of the association's membership, thus attract new members. And he would like to see the NAHB seal on a house, like an underwriter's tag or a seal of approval, mean something to the public as well. "It's the nonprofessional builders," says Brockbank, "who are responsible for most of the public's complaints—the farmers, the junk dealers, even the pickle-packers, who jump into building shoddy homes for a quick buck." NAHB and Brockbank hope to cut down much of the justified criticism of the industry for turning out inferior merchandise. The above steps may whittle this criticism down to the minimum—there will always be Fritz Burns's "man in the twentieth house," the chronic complainer.

Another puzzler for NAHB in 1952—how to loosen up the mortgage money market—should be a familiar headache to its new chief, who is one of the founders and current directors of Housing Securities, Inc., a New York mortgage brokerage firm set up in 1950 to help relieve the shortage of money during credit curtailments.

Joe Builder, Ph.D.—enter architect?

On Brockbank's personal program of good intentions for '52 are two other much-needed NAHB items. He intends to:

- 1) Continue a high degree of co-operation between AIA and NAHB to improve design, bring more architects and builders together. Brockbank has always used an architect himself, feels many builders have not kept abreast of their potential buyers with up-to-date design and room arrangement. In his words, "The training of the architect is an important factor in the beauty of any house."
- 2) Plug for more research into building methods and materials, and for more correlation of research so that it does some good.

This year he will continue to press for revision of local building codes—and government and lenders' requirements—to permit full use of alternate materials and conservation techniques.

Going a step further, Brockbank believes that in years to come regional schools should be set up for homebuilders who want to understand and improve their products. Another of his not-so-idle day dreams: that American colleges should include in their curricula courses in light construction to train young men properly for the field. He often talks of the "emergence of the home-builder as a professional"—a man who must know a good deal not only about construction, but about labor, finance, merchandising, architecture, and other fields as well. If Brockbank had his way, the letters NAHB might some day approach the professional dignity of an M.D. or an LL.B.

Brockbank the builder

"The best possible house for the lowest possible price," reads the direct, if not original, placard on the wall of the Alan E. Brockbank, Inc. business office. For the most part the firm has lived up to its motto in creating Rose Park, Utah's biggest private housing project and testing ground for some of the region's more advanced merchant-builder architecture.

At the end of the war Brockbank and three other builders bought up 360 acres in the city's so-called "undesirable" West Side industrial area. To date he has built some 700 of the 1700 houses in this planned community. To serve its fast-growing population (7,000 people now, almost 100% veterans' families) he is erecting schools and an eight-acre shopping center which will expand to ten acres for an expected population of 15,000.

The first houses, and the larger part of the development, were trim, conventional brick jobs with hip and gable roofs, staggered

on 25' and 35' setbacks, with curvilinear streets and lots that average 60' x 110'. Then started the experiments.

In 1949 the organization came out with a clean, functional frame house to sell for \$11,500, and the public caught on fast. The Chamber of Commerce and the Utah Home Builders Assn. tagged it "Salt Lake's First Contemporary Low Cost House," and the Revere Institute conferred a Quality House Award. Architects were Fred L. Markham, AIA, and his associate W. Rowe Smith. (With a later design, Smith won honorable mention, Rocky Mountain region, in the NAHB-FORUM design competition—see March issue '51.)

During 1950, Brockbank built a \$7,950 concrete block "cheapie," as he called it, sold 140.

Last year he hired M. E. Harris, Jr., AIA, to design a "transitional contemporary" model, a larger three-bedroom house of 960 sq. ft. with a carport and half basement. Dubbed the "CQ," after a Certified Quality award from the Southwest Research Institute, this one attracted 10,000 visitors during National Home Week, has sold ten so far. To get the most salable design possible for the CQ, Brockbank had handed out questionnaires to visitors at his first contemporary model, incorporated some of their ideas and rectified other points according to their criticisms.

For this spring, he plans his "Trade Secret" house, which will boast a dozen wrinkles garnered from other builders in NAHB-sponsored conferences—new windows and a perimeter heating system from builder Andy Place of South Bend, a roof without edge flashing, an open plan with sliding doors. To save materials he will group plumbing installations toward the street side of the house, align the whole mechanical core of the house on one wall. Also submitted for local code approval: foundations without footings, a heating system adapted from that of builder Rodney Lockwood which uses the crawl space as a warm air plenum.

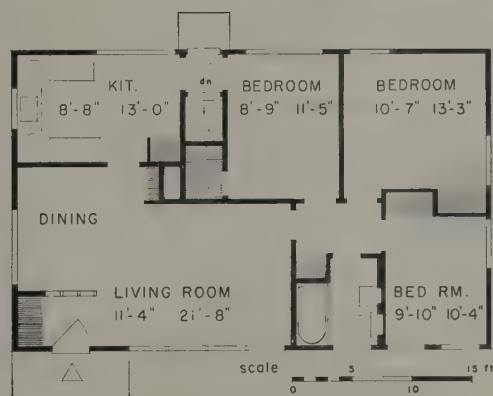


1948—Brockbank's stock in trade was a solid, conventional brick bungalow. His Rose Park development, (left) on 360 acres of long-idle land, is spacious and well maintained.

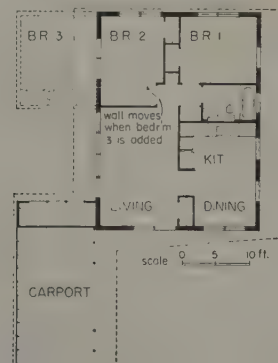


Photos: Joern Gerdtz

1949—The Revere Quality Houses made history in Salt Lake housing with their full use of glass, open carports, contemporary lines and natural wood siding. At 860 sq. ft., they sold for \$11,500, including fences, greenery, rugs, curtains, and kitchen equipment.



1951—Innovation of the year: a three-bedroom “Certified Quality” house, with living-dining up front, lit by big windows. With 960 sq. ft., this came in a “standard” model at \$11,000, a “deluxe” for \$13,000, including garage, paved terrace, appliances, fence and landscaping.

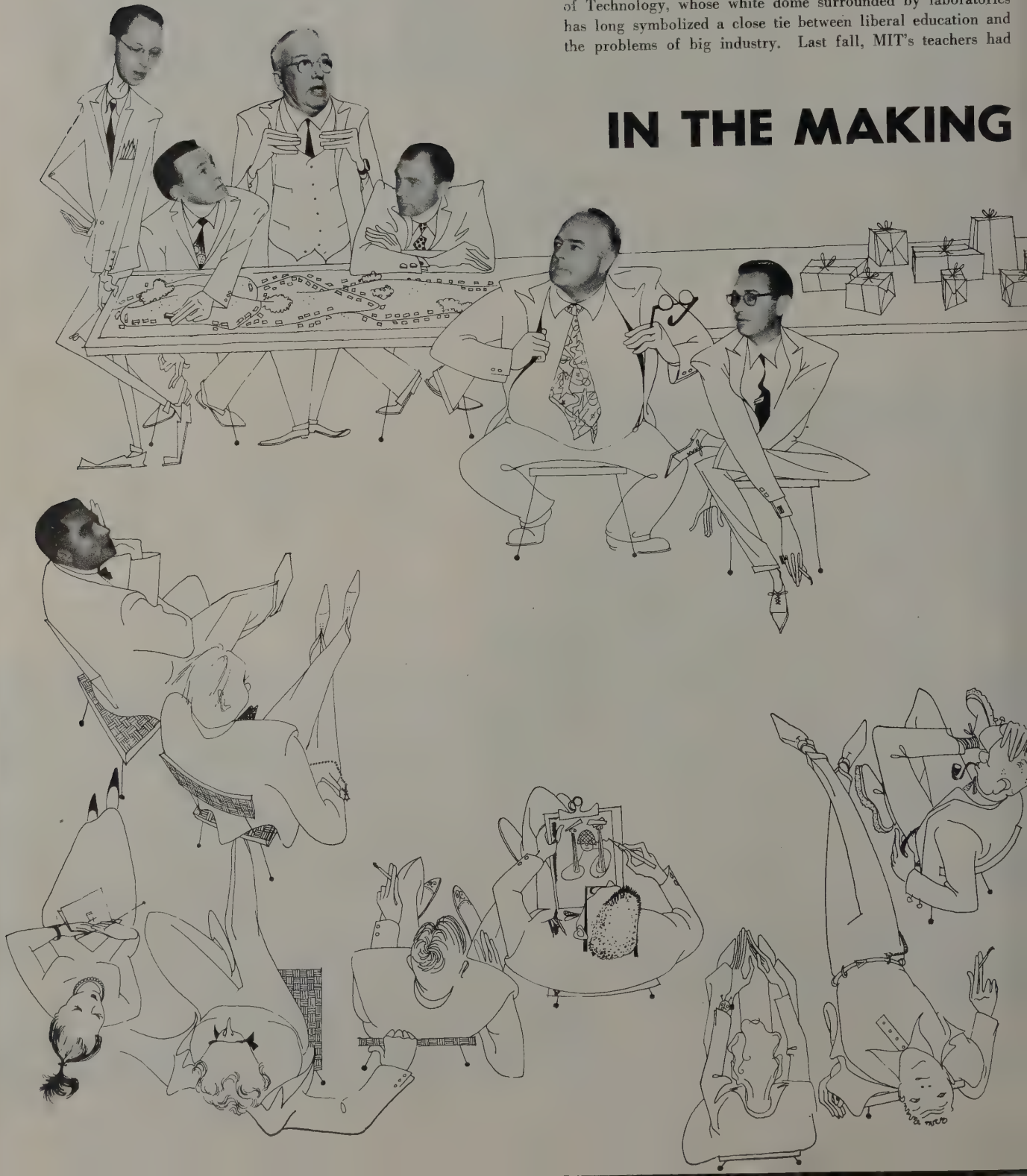


1952—Still on paper is this “Trade Secret” model for under-\$12,000 market. It incorporates ideas and techniques of other builders.

THERE'S good news for the homebuilding industry out of the architectural schools. The schools are taking first steps to train young architects to deal realistically and specifically with the builder house—the quantity production house—the house that stands in a development and serves the mass market.

Significantly the lead has come from Massachusetts Institute of Technology, whose white dome surrounded by laboratories has long symbolized a close tie between liberal education and the problems of big industry. Last fall, MIT's teachers had

IN THE MAKING

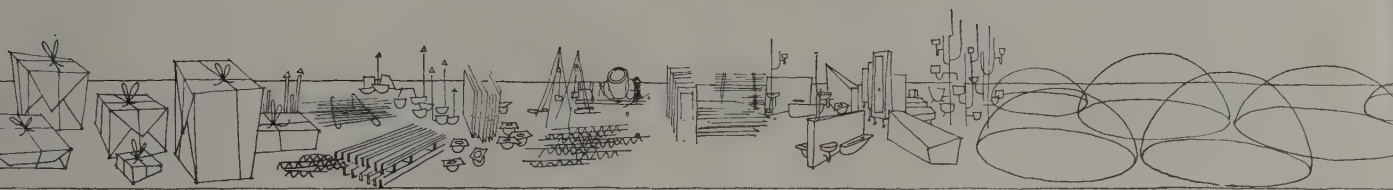


tramped with students through the mud and weeds of a fair-sized tract of land in nearby Wayland. Last month each of five student teams were ready with a development "proposal" for that tract—not just a site plan, not just house plans, not elaborate house facades such as an architect might prepare for an individual "client," but a coherent scheme involving ideas of financing and selling; the kind of proposal that a builder might submit to a banker. Actually the men Dean Bel-lusechi had gathered to judge the submissions were far better qualified than the average banker. They were five of the most experienced and brilliant operative builders and prefabricators in America: Fritz Burns, Howard Fisher, John Galbreath, Foster

Gunnison and Alfred Levitt, not forgetting philosopher-prophet Buckminster Fuller, one of the teachers. (The other two teachers were experienced house-architect Carl Koch and the Bemis Foundation's Richard Hamilton.)

Surprisingly enough, the fascinated student listeners were not the chief beneficiaries of the occasion. The industry leaders, stimulated by the earnest attention of the students, and intent on giving their youthful new allies a broad perspective, ended by giving many a sharp insight into an emerging industry: its scope, its methods, its latest aims and problems. More than one veteran came away with a clearer understanding of his industry and his place in it.

Architects university-trained for the builder house. Builders tell them about the industry



For an industry of many branches—comprehensive research

One fact was instantly manifest: almost overnight, homebuilding as an industry had grown big. And one of the implications became evident as soon as research specialist Howard Fisher (trained as an architect) spoke of its needs in the realm of ideas rather than just physical production. Said Fisher, "In its thinking the construction industry today is not a unit . . . is more like a group of islands, an archipelago rather than a continent. Research must span across those water gaps: must unite the thinking of specialists such as architects, industrial designers, real estate men, money men, construction experts. Only so can industry-wide vision and leadership arise." Consequently he advocated research by teams of men each competent in one or more specialties, rather than research by separate individuals.

—and division of labor in actual operations

Fritz Burns drew a directly contrary picture of the builder's actual physical operations: he suggested that these might often more profitably be *divided up* among several kinds of separate operators.

Said Burns, "Only about 10% of our housing is accounted for by prefabricators and by big builders putting up whole communities. The big volume is done by the man who does five, ten, 25, or up to perhaps 50 houses a year. A man doing 25 to 50 houses a year will make several decisions: first, whether to become a land developer or buy his lots already developed. He might go a step further: buy his houses prefabricated or partly prefabricated. He might eliminate any participation by himself in financing, and get a good mortgage broker. This developer—whether he is a builder, an architect, or whatever

combination—might even go another step and decide, rather than merchandising his own product and further spreading his efforts, to select a real estate agent to handle sales. Thus he can either *dilute* his efforts over the full expanse of building-industry activities, or he can try to *focus* on two or three to the extent of his ability or his capital. A fellow might decide, for example, that he is better off building more houses per year with his capital and foregoing his land profit than tying himself up in land development and limiting his volume of production."

Between Burns and Fisher there was no fundamental contradiction: the more complicated the steps leading to separate specialists in action, the greater the need for basic unity of common understanding.

Who is to do what?

Though Burns' remarks on division of labor came late in the proceedings, they epitomized the kind of question that had been coming up all day: in homebuilding, who does what? and how does he mesh with the next fellow in the process?

Who does the design?

"The architect does the design," said virtually every leader present; and each of them added "but . . ."

Said John Galbreath: "—but he must know the *production process*. At Fairless Town we had an architect who started to redesign the prefab house we were working with to get a different arrangement. The prefab president wanted to know whether this architect could spend part of his time at the factory on a consultant basis. Only then could his suggestions be made useful" . . . and even so probably only in time for the next year's prefab model.

(The MIT students were, however, skeptical of accepting prefab models "as is." The team assigned to a prefab model calmly redesigned it, finding that the present type was wasteful on their *unaveraged* tract of land.)

"The architect might do the design," chipped in Foster Gunnison, "but only if he knows sales. Production methods are not too hard; but you get men to go out and sell your product day in and day out. If you don't have a house the public wants to buy, the poor salesman will go broke trying to sell. Only architects who deal with this kind of stern reality can play an important part on an industrial team."

Who provides the house?

In an industry which as Burns had shown could be readily subdivided, the debate was lively as to who should supply how much of the house.

Prefabricators, said Gunnison, supplied 50,000 units last year, will rapidly increase their share this year—a great proportion going to smaller developments. "Where Levitt or Burns goes in for 4 or 5,000 site-fabricated houses. I think they can effect as much economy . . . but you have got to have a *big* site project to do this."

"We find," said Levitt, giving this idea a different twist, "that we put many more man-hours into a prefabricated house than we do when we take certain truths of prefabrication and apply them on the site. Also the shell is—relatively—not so important. In producing a complete community, one-third of our working hours—no, half—are spent not on the house but on the site: paving roads, installing sewers, storm drains, underground electric lines; all the way to placing corner street signs, planting parks, building town halls and swimming pools. All of these you can't prefabricate."

Who prepares the land?

Both the prefabricators and the site planners present agreed that efficiency in house production arose out of two things: assigning a workman a simple repetitive routine and giving him continuity of employment. Both declared the industry was improving as it cut down intermittent hiring and firing. But the greatest snag today was the fact that *land acquisition* must be intermittent; moreover, work on the land is seasonally restricted. "Where," Levitt asked Gunnison, "does the prefabricator who employs men the year round store the huge inventory that must accumulate during the three or four months when site work—such as concrete foundations—can't be done?"

Here Professor Carl Koch interposed a novel suggestion: in order that land might be prepared in advance against the winter months, and in order that this might not tie up the builder's often attenuated capital, why not let government agencies prepare the land ahead?

The idea of having government do this drew instant opposition, but the idea of *having* it done—by private agencies—drew instant approval. Said Howard Fisher: "There are two kinds of government interference, which businessmen regard differently. The FHA is the kind which the industry loves, since it relieves the builder of risk but takes away no profitable operations. Perhaps if some scheme were to be evolved where interest could be waived on the cost of predeveloping during the warm months, with FHA support, this would be the kind of aid that businessmen would love." Fritz Burns said, however, that preparing lots was just one of the many building industry

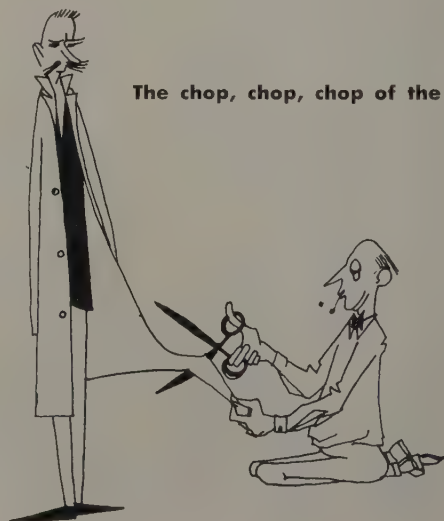
operations that are likely to be intermittent; if you were to try to correlate building with a constant supply of lumber you would run into the same problem as trying to correlate it with a constant supply of lots. One answer: a specialist in land development creating prepared lots ahead against demand, to even out the year.

Who knows the market?

From Al Levitt the students absorbed some notion of the sheer mechanical intricacy of mass selling, compared to the ordinary personal relationship between one architect and one client. "We got really big when brother Bill learned to do something that is impossible," said Al. "At Levittown he learned—with the aid of half-a-dozen men—to speak to 5,400 customers in one year, conduct 5,400 title examinations, take 5,400 mortgage checks, do all the rest of what is involved in closing 5,400 separate deals. And tens of thousands of people are handled before you get down to the 5,400. I don't think the knowledge is shared in this country or in the world—how you mass handle and mass sell private individuals without offending them." (This year at Levittown, Pa., said Levitt, 1,600 houses were sold in the first month.)

To the students Levitt humorously recalled how the radical break came, from suiting the whims of individual clients to working with standard plans in advance of sale. "With the name 'Strathmore' we had learned we could sell about 200 houses a year—every one more or less to order. The customer came first; he looked at the plan and mangled it as he wished; and we built it with a customer for it in advance. By 1937 all three of us saw that the chop, chop, chop of individual customer relationship (by the way the beams were chopped, too, with a hand adze) gave us no peace of mind. So we settled on a new standard plan: seven basic house plans and I think 44 elevations.

"Each year we opened not just new houses but a new subdivision—brand new. The public likes something new. By 1940 we were clean. We had only *three* floor plans. When we moved to Norfolk, Va. there were a hundred possible buyers for every house. We built what *I* liked, what was easy to build and easy to live in: a one-story unexcavated house . . . they are still standing—built in 1940." The audience laughed.



"Every year we try to improve our models down to the last detail. For example in today's models you won't find a 'utility room'—it's just a cabinet 30" high and 25" deep alongside the washing machine in the kitchen." (H&H, Jan. '52.)

Who are the leaders?

The audience liked Levitt's account of the big decisive leap from filling private orders to selling the mass market. And from the floor came the suggestion, warmly applauded, that the Levitts were wiser to draw on their own expert knowledge, producing something better than the consumer could yet imagine, rather than to wait on "consumer surveys." "Genuine advances," said one floor commentator, "such as cars, planes, and atomic energy, are made by people who know more than the public and who should act as leaders instead of surrendering to the most ignorant members of the community."

Who will pioneer the future?

When it came to leaders, warm tribute was paid to one man, Buckminster Fuller. Said Foster Gunnison, "When Owen D. Young in 1932 suggested industrialized housebuilding to cure the depression, I ran into the early work of Buckminster Fuller. Everybody was laughing at him . . . they still do . . . but all that time he had the kernel of the idea. I wish to express my deep personal gratitude . . . and congratulate you on having his genius to keep feeding you ideas. I hope they can be made practical."

Said Fuller, "I built 240 practical houses in the '20's, so far as I know still standing. . . . I was a cotton millwright . . . had Naval Academy experience handling ships . . . designed a car. . . . In 1927 I made a rough estimate of the time required to develop scientific shelter, and I saw it as a 25-year job."

"All around me were people talking to architects; I wondered why they never talked the same way to doctors. 'Doctor, we think you have a nice office. We have decided to have my wife's liver out. While she is under the anesthetic you might throw in some face-lifting.' The doctor makes some beautiful measured drawings of Mary's liver, six different renderings of how her face could look after it's lifted. At this point,

for the sake of specialization, five local butchers are called in to bid on the job. . . . Now some of these people won't even go to this doctor—they simply go to the local drugstore and get some patent medicines. The patent medicine business is a very good business . . ."

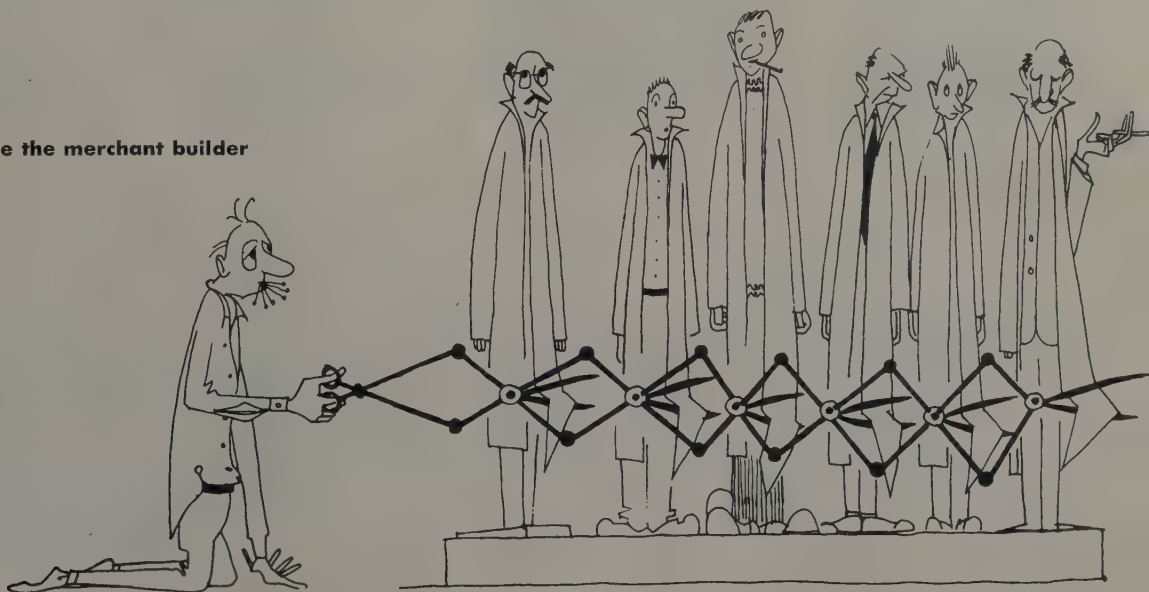
Over his 25-year scientific development program, Fuller has sought consistently not for sources of quick profits but for three things: 1) greater structural "advantage" in the shelter enclosure; 2) greater mechanical "advantage" in the equipment; 3) separation of the mechanics and structure of the house so as to develop maximum potential in each, unhindered by the other. And, as a fourth point, Fuller has sought to make the entire shelter system "autonomous"—independent of buried utilities such as water lines, sewers, electric lines; capable of operating "by itself" so long as fuel could be had to generate the necessary power (July issue '51).

To his devoted students there was nothing strange or impossible in Fuller's program. To Professor William Wheaton of Harvard, worried about the exhaustion by 1970 of iron, steel, copper, and some 23 other materials, it represented major conservation by obtaining several hundred per cent more "performance per pound"; to H. K. Phinney of Bakelite Co. it was a token of optimism since Fuller's 1970 house "did not mention a single material that is in wide use today."

And so the young architects at MIT found themselves at the end of the day thinking in terms that were in some ways thousands of years from the thinking of their fathers. For thousands of years architects had designed for individual clients or patrons. But Levitt had been talking in terms of 1,600 clients a month and Gunnison about 50,000 clients a year—the ordinary people of the USA—while Fuller was testing single-design housing instruments for the habitable globe. The architect's partner had always been the contractor bidding on houses one by one and the banker lending on one by one; here one of the builders declared that he didn't even know his construction cost until after the 50th house. The architect's arbiter had been individual taste; here it was the need for survival of people by the million. Deep down in their hearts the young idealists still treasured the same old ideals of beauty, of good living, and honest worth. Yet they knew that the practice of architecture would never be the same again.

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PACKAGED SERVICE CORE highlights new glued, laminated prefab house

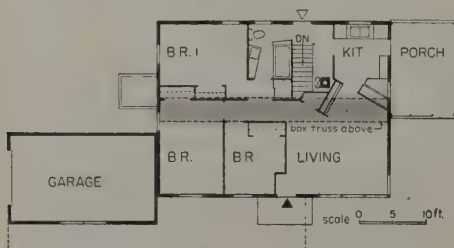
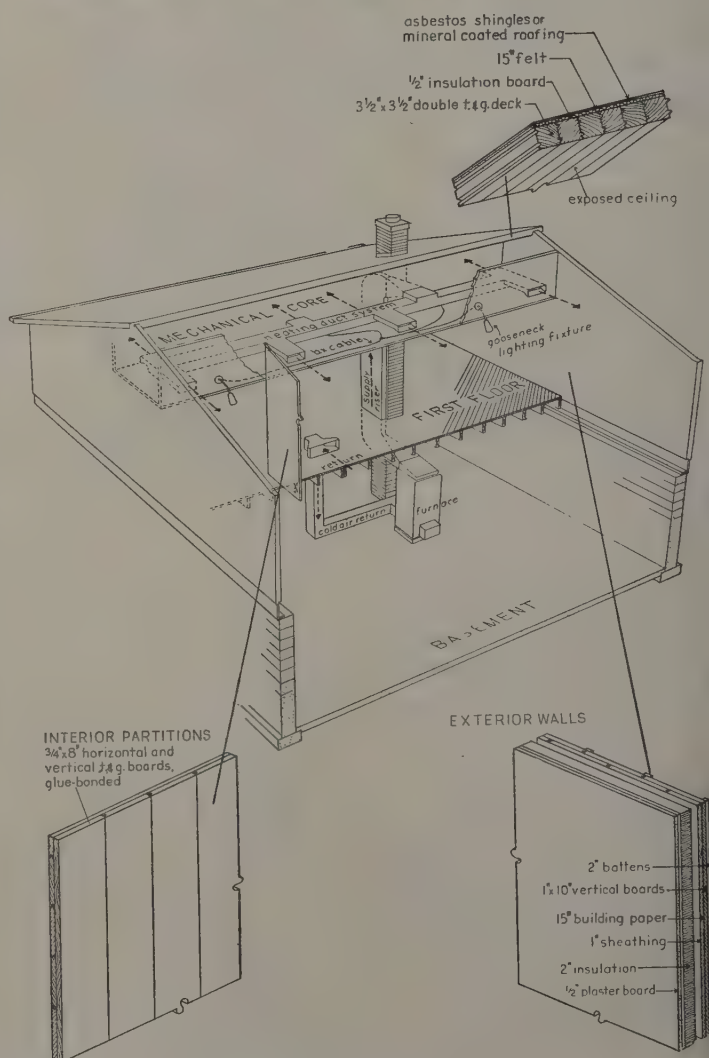
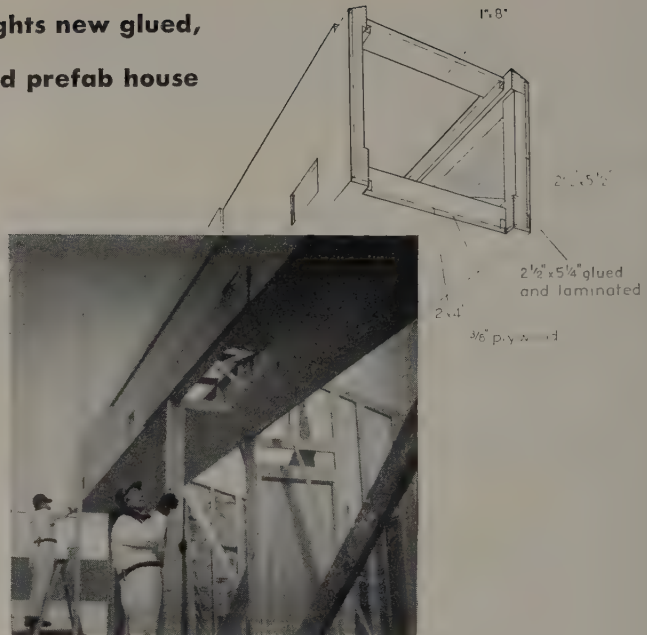
Prize house for this year's Milwaukee Home Show, opening this month: a prefab—the first factory-built model so honored in the show's 19-year history. It incorporates three out-of-the-ordinary construction elements that have stirred interest among trade and public alike:

1. The mechanical heart of the house is a 3' x 3'-8" x 36' utility core running from one end wall to the other over the hall. In one neat package trucked from factory to site it bundles: an attic-type gas furnace, heating ducts and registers to every room, wiring and built-in ceiling light fixtures. Structurally, it is a frame box-girder sheathed with plywood, hung from the two end walls of the house as a ridge pole to support the roof without help from the interior partitions. The furnace will be installed in the core itself only where local authorities permit such construction, otherwise in the basement as shown in the sketch of the pilot model at right.

2. The roof is simply a solid deck of 3½" x 3½" timbers of porous Western cedar, double tongue-and-grooved together; topped with building paper and shingles on the outside, left exposed on the inside and finished with varnish or paint to form a sloping, open ceiling. (See detail.) Experience on the job indicates this massive deck has a high insulating coefficient, and the higher lumber cost is offset by faster erection time and lower costs.

3. Interior partitions are made of two layers of ¾" x 8" cedar planks set edge to edge, horizontally on one side and vertically on the other and bonded together with glue under pressure. Installed for the first time on the pilot model, these thin panels appear to have adequate strength and sound insulating properties.

The three-bedroom, one-bath home show house, designed by architect Edmund J. Schrang and manufactured by Unit Structures of Peshtigo, Wis. took one day to erect and another seven to equip with heating, plumbing and wiring, ready for painters and finishing crews. As one of Unit's stock models, the package will sell to builders for \$7,450, the completed house to buyers at \$15,890. One of the pioneers of the glued, laminated arch in this country, the firm added houses to its production line during the war, currently boasts 29 stock models ranging from \$11,800 to \$30,000, an output of three houses per day.



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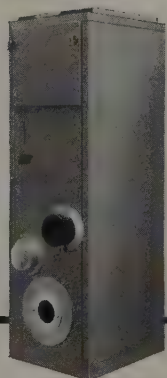
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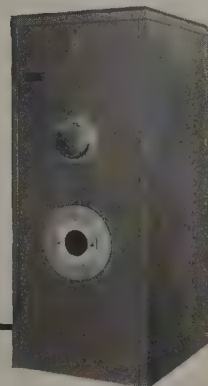
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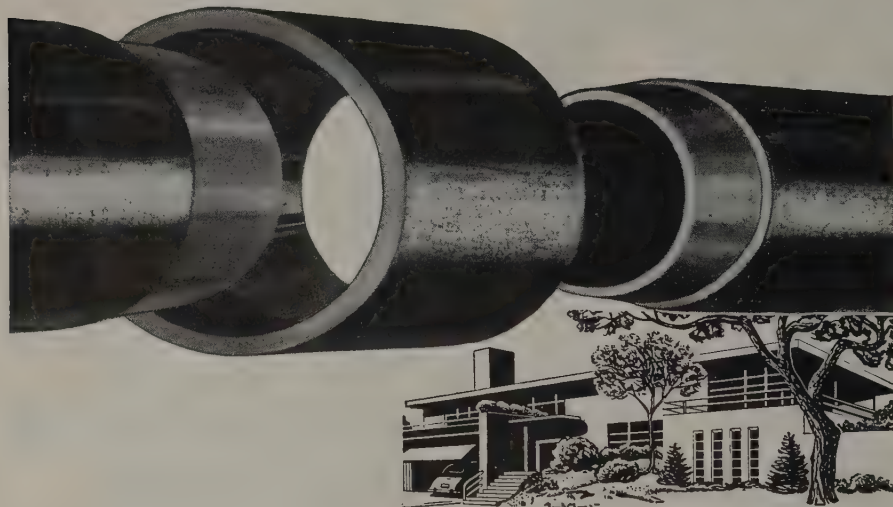
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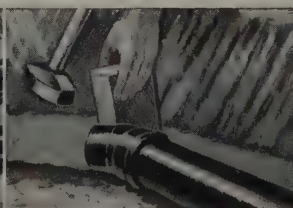
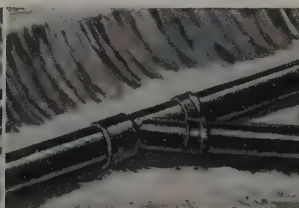
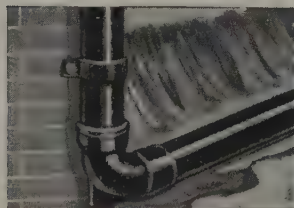
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REVIEWS

AN APPROACH TO DESIGN. By Norman T. Newton. Addison-Wesley Press, Inc., Cambridge 42, Mass. 144 pp. 5 1/2" x 8 1/4". \$3.50.

Anybody who has ever attempted to teach design to aspiring architects knows how difficult it is to communicate the philosophic principles of modern design—especially since there are few books available to prepare the ground. Norman Newton of the Graduate School of Design at Harvard has now tried to fill that particular gap. His effort has been largely successful.

Newton recognizes the problem in his first chapter: it is awfully hard to communicate the "world of design" (which consists of visual symbols such as lines, colors, textures, forms) by the use of words. But having recognized this problem, he makes no attempt to use visual symbols to communicate his philosophic concepts. This is a book on design without a single illustration!

In view of this strange omission (intended, perhaps, to keep the applications of the philosophic concept as fluid as possible, rather than identify it with definite symbols), Newton's success is remarkable. He manages exceedingly well to define the curious interplay of structural order, esthetic order, functional program, etc. that finally produces that almost audible "click" of the finished design—the final, organic product in which all parts fall into place naturally and effortlessly.

In seeking these definitions, he draws upon a good many extraneous arts and sciences—and some of the analogies are open to serious challenge. However, he does try to steer clear of the various partisan positions—of pure, esthetic architecture on the one hand, of pure functionalism (whether in plan, structure, social pattern or—the latest rage—climate control) on the other. The attempt is not always wholly successful, and toward the end of his book Newton occasionally preaches a form of dry functionalism that this reviewer found hard to swallow. By and large, however, there is a rounded, an *organic* quality in Newton's definition of design which is a step beyond the recent preoccupation with styles. Or, if not a step beyond, then a fine base from which each individual designer can set out in search of his own esthetic expression.

GARTEN UND HAUS: By Herbert Hoffman. Published by Julius Hoffman, Stuttgart, Germany. 192 pp. 9" x 12".

Here, in a big and handsome book of fine photographs, is a collection of houses and gardens truly international in scope—from Zurich to Miami Beach. Most of the houses are large, in lushly planted settings; there are also some exceptionally interesting close-ups of terraces, garden walks and houses, trellises and fences. Interpretive text blocks and captions—for those who read German.

(Continued on page 146)



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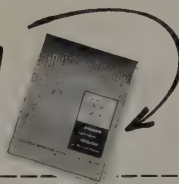
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REVIEWS

TWO-THIRDS OF A NATION. A Housing Program. By Nathan Straus. Published by Alfred A. Knopf, New York. 291 pages, 5 3/4" by 8 1/2". \$4.

Alan Brockbank, NAHB's new president, was seen carrying a copy of this book at the recent Chicago convention. What Brockbank thought of it he didn't say, but chances are he read it carefully because it summarizes many of the opinions of public housing advocates. Straus was the first administrator of the U. S. Housing Authority, a former N. Y. State Senator, an adviser to Mayor LaGuardia on housing, and more recently has been a lecturer at New York University and Columbia.

Straus takes so many cracks at builders and their housing projects that few but public housers will enjoy it. All builders should find it challenging even though it raises their collective blood pressure. Straus rides roughshod over private builders, kicks FHA in the ribs, takes a mighty poke at the National Association of Real Estate Boards, shouts down the U. S. Savings & Loan League and even takes a swipe at Robert Moses. In fact, Straus seems angry with everyone connected with housing and even includes a few nasty remarks about some public housing.

The significance of the title is that Straus believes that two-thirds of American families are poorly housed because they cannot afford the new houses being built today. Two-thirds of all families have incomes less than \$80 a week. He says this is not enough for them to buy or rent a decent place to live. "There is practically no new housing produced by private enterprise at a figure the average American can afford. . . . Even with the aid of FHA insured loans, the housing built today, whether for rent or for sale, is beyond the means of two-thirds of the population."

The author believes that public housing is essential for the lower third earning from \$30 to \$50 a week. FHA houses are for the top third earning over \$80 per week, but the "forgotten third" are the families with incomes \$60 to \$80.

For this middle group he recommends the Connecticut Plan, the Straus Plan or housing co-operatives. The Straus plan was recommended in 1946 in New York City but was never adopted as Straus conceived it. It was to be three- and four-story garden apartments renting at \$40 to \$60 per month. Capital would come from the sale of tax-exempt bonds issued

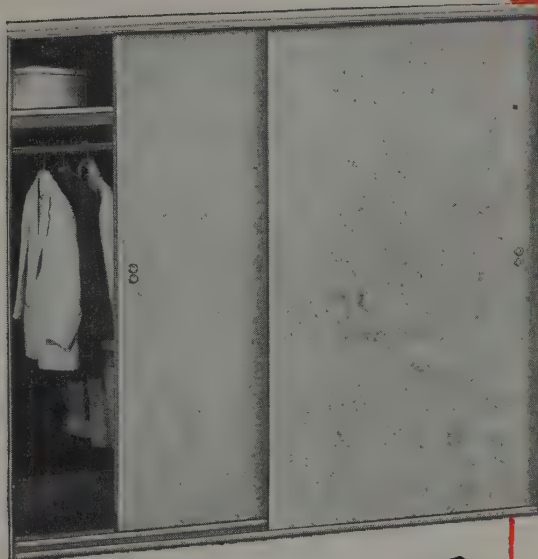
(Continued on page 148)

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- Adjustable sleeve joint fits standard 3 1/4" x 10" duct • Outside grille has angle baffles for weather protection • Automatic shutter closes duct when fan is not operating • Dependable Emerson-Electric motor equipped with special thrust bearing.

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Build cool, summer comfort right into your homes by installing Emerson-Electric Attic Fans! Here is another sales-clincher . . . available in four sizes from 24" to 48". Note: you'll save half on installation by installing during original construction.

EMERSON  **ELECTRIC**
FANS • MOTORS APPLIANCES

by the local housing authority, with two-thirds of the bond issue secured by a mortgage lien on the whole project. Interest and amortization would be met by rent. The remaining third would be guaranteed by the city. The bonds would be self-liquidating and thus "the city would not in all probability ever be called upon to make good its guarantee of one-third of the bond issue. . . . Thus the total burden on the taxpayers, over the 50-year life of a housing project, would probably be only 1% of the original cost."

The Connecticut plan is too complex to discuss in detail here, but basically it would permit a state to finance approved local housing projects with one-year state notes at an interest rate of 0.8%. The state would pay the municipality enough of the interest to permit rents of about \$32 monthly. Another phase of the plan as now in use in Connecticut permits a family to get a state mortgage loan to buy or build a house at 1 1/2% interest. As Governor Chester Bowles states: "Connecticut's housing program, both rental and home ownership, is providing more than 12,000 dwellings for middle income families without cost to the taxpayer." Private builders did the work.

As for co-operatives, Straus is heartily in favor of genuine plans such as are used in Europe, but believes many of Section 213 schemes are spurious.

It is significant that Straus is not in favor of public housing for the middle income groups. "The operation of middle income housing by a local housing authority is far from being an ideal solution. Public ownership and operation is not as desirable as ownership and operation by an individual, a corporation, or a tenants' co-operative."

Private builders may agree with what Straus says about housing costs. The real cost to a buyer of a house is the recurring monthly expenses. If construction costs were vital, he says, wages would be a key factor. But even if wages were cut in half, construction costs would be reduced only one-sixth. In monthly cost to the buyer there would be a reduction of only 10%.

The real cost of housing, Straus believes, is the cost of capital, plus the cost of operation (including maintenance and utilities) and real estate taxes. He points out that the cost of capital is never less than 40% of the total, and often as much as 55%.

He is highly critical of interest rates and
(Continued on page 150)

Cabinet manufacturers from coast to coast are adapting their specifications to the installation of Chambers waist-hi GAS Built-Ins. The typical arrangement shown here is by Belwood Kitchens.



A Fresh Approach To
KITCHEN DESIGN
With Built-Ins By

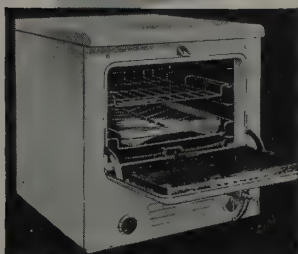
Chambers

COOKS WITH THE GAS TURNED *off*®

It's no mystery why women go for the principle of Chambers waist-hi GAS Built-Ins. They are keen for this most modern development in *automatic* cooking. They enjoy the freedom from stooping, bending, and lifting. They like these units because they can be installed anywhere in the kitchen.

Leading kitchen-cabinet companies have been quick to recognize this new kitchen trend. They now provide base and wall cabinets to fit in with Chambers Built-Ins. (We'll send you their names and specifications, on request.) Modern streamlined kitchen cabinets together with Chambers waist-hi GAS Built-Ins transform workshop drudgery into a modern dream of efficiency.

Here is a vast opportunity for alert designers and builders. Women prefer Chambers Built-Ins not only because they represent a new trend in kitchen design. They also represent a new way of cooking that saves food, flavor, time, fuel and labor. Only Chambers "In-A-Wall Oven" *Cooks with the Gas Turned off*. Only Chambers offers a choice of oven doors in stainless steel or seven decorator colors. No other line of cooking equipment offers you such flexibility in kitchen design, or provides your clients with this World Famous Cooking Performance.



"IN-A-WALL" Oven is heavily insulated—top, bottom, all sides—utilizing retained heat to "cook with the gas turned off." Its huge, family-size capacity accommodates up to 40 lbs. of roast. Beautifully finished in stainless steel, or stainless with oven doors in choice of seven beautiful decorator colors.



"IN A TOP" 3-Burner Drop-In with plated surface fits into counter top by providing opening of 18½" x 33½". Individual drip rings may be removed easily for quick cleaning. 4 burner top also available.

Selected
GOOD DESIGN
by the Museum
of Modern Art

25 Year
Guarantee
on burners and
cast oven bottom



Originator and Master Builder of Insulated Ranges since 1910

ACCEPTED by FHA for Underwriting Loan

Send for A. I. A. Specification Sheet NOW!

Chambers Corp., Dept. AFT 352, Shelbyville, Ind.

Gentlemen:

Please send me at once A.I.A. Specification Sheet and name of local distributor.

I am an Architect () Builder-Contractor () Dealer ()

NAME

FIRM NAME

ADDRESS

CITY

ZONE

STATE

believes that a reduction of interest is a direct way to reduce costs. A cut from 4% to 3% is equivalent to cutting from \$2.75 to \$3 from the cost of each room per month.

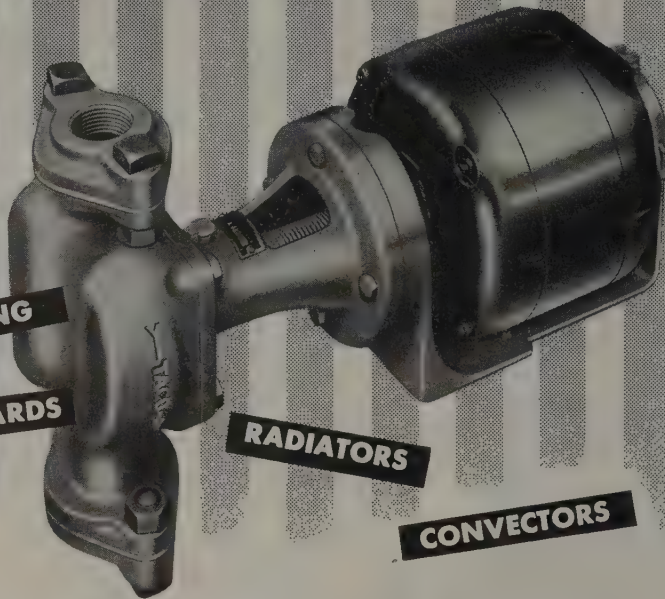
Builders will also agree with Straus that tax laws are topsy-turvy, often rewarding the builder of poor houses and penalizing better builders. Straus says local real estate taxes make up 10% to 20% of the cost of houses. "Tax laws should recognize the obvious fact that well built and well planned housing with a healthful, law-abiding population means a real saving to the community . . . Low taxes should be the reward of the community to the developer who provides well built projects with self-contained recreational areas and self-supported street cleaning. Good housing costs the builders more—but the community less."

But builders will object strenuously to one of the author's main contentions: home ownership is all right for the upper income group, is bad for the middle income group except in a depression when prices are cheap, but "is rarely to be recommended" for a family in the lower income half of the population and "is dangerous if the purchase is made at a high price in a period of economic prosperity." For most families, most of the time, he favors renting.

Straus's own platform for rebuilding cities includes these steps: HHFA should see that federal aid is given redevelopment schemes only if they conform to a new set of higher standards. Cities and towns need a planning commission with power to proceed under Title I of the 1949 Housing Act. If man-made political boundaries stand in the way of redevelopment for maximum economic efficiency and human well-being, such boundaries should be discarded. The federal government, with local governments, should encourage study of site planning, town planning, traffic problems, including courses in high schools and colleges. "There is no shortage of land or of money. There is only a shortage of understanding. Urban redevelopment will begin when the people themselves determine they want the job done."

The book includes a lengthy section on British housing policies, a chapter by Lee Johnson on the 1949 Housing Act, a chapter by Charles Abrams on "The Segregation Threat in Housing," an outline of the Connecticut Plan by Governor Chester Bowles, and a final chapter by Mr. Straus that is a fiery attack on all who are against public housing.

get FAST, RESPONSIVE HOT WATER HEAT for



PANEL HEATING

BASEBOARDS

RADIATORS

CONVECTORS

with this popular TACO CIRCULATOR

EVEN LOW BUDGET HOMES CAN NOW HAVE THESE LUXURY ADVANTAGES

RADIANT WARMTH • DRAFTLESS WARMTH • CONTROLLED WARMTH

MORE HOT WATER FOR KITCHEN, BATH AND LAUNDRY

Yes, forced hot water heat with a TACO circulator gives all this *plus* economical warmth. No need for a separately fired water heater. TACO TANKLESS, hooked up to a heating boiler, supplies year 'round low cost hot water.

The TACO circulator delivers heat where it will give the greatest comfort . . . whether you use radiant panels, convectors, radiators or baseboards.

ARCHITECTS-ENGINEERS
WRITE FOR . . . SIMPLIFIED
SELECTION CHART FOR SIZ-
ING TACO WATER HEATERS
UNDER ANY CONDITIONS.

Three other famous TACO PRODUCTS for houses

TACO-VENT



eliminates air
from hot water
radiation
automatically

TANKLESS TACO



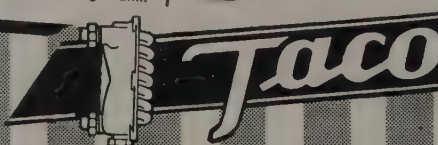
gives an abundant sup-
ply of hot water instantly.
No need for storage tank.

TACO TEMPERING VALVE



thermostatically
mixes hot
water with
cold so there's
no danger of
its being too hot.

Better Heating-
Better with Taco



TACO HEATERS, INCORPORATED • 137 SOUTH STREET • PROVIDENCE 3, R. I.



"I think there's nothing like *electricity* for an oven. No odors, no uneven heat, and it's cool even in the summertime. My G-E is wonderful."

"Good!" says Mr. Benenson, "We put in these G-E Ranges because we found most women *preferred* General Electric appliances!"



"Here's another thing I like about my G-E Kitchen, Mr. Rosenberg; the interior wire shelves are perfect. They're so easy to keep clean and everything in the cabinets is in plain view! This G-E Kitchen certainly was designed with *me* in mind!"

● General Electric equipment does not call for a luxury price-tag!

The 114 houses in the Beth Page Project were tagged at only \$10,399.00 each.

And that included the full price of the General Electric Kitchen-Laundry!

Imagine what a selling feature General Electric equipment can be in *your* houses . . . just as it is for Messrs. Rosenberg and Benenson, and many other successful builders throughout the country.

Do you know, too, that even today under

rigid credit restrictions, the complete General Electric Kitchen adds as little as \$3.50 a month extra to monthly mortgage payments!

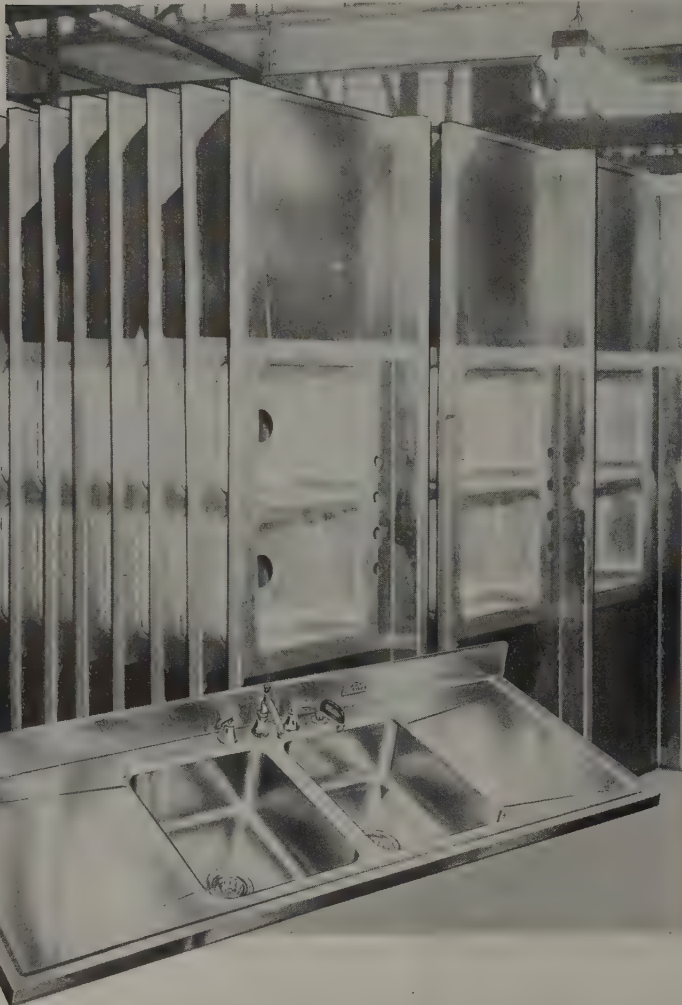
No wonder even families with incomes of \$50 a week are enjoying the comfort of a G-E Equipped Kitchen-Laundry.

Why not start selling your houses faster, too? See your local G-E distributor, or write to the Home Bureau, General Electric Company, Louisville 2, Kentucky.

GENERAL  ELECTRIC

ELKAY LUSTERTONE SINKS

of Stainless Steel being shipped again!



■ Thanks to new advances in metallurgy that have increased supplies of stainless steel, the famous Elkay LUSTERTONE Sink is in production again. There's enough stainless steel available for Elkay to resume production, but *not enough to meet the accumulated consumer demand.*

Any home is a better home with LUSTERTONE in the kitchen. It's the *only* sink guaranteed to outlast the home—never needs upkeep, never deteriorates, need never be replaced. Specify LUSTERTONE, because the lifetime cost is lower!

To make sure *your* clients get the LUSTERTONE they've been waiting for, see that your contractors order now—or file your specifications with Elkay *without delay.*

See SWEET'S $\frac{24b}{Elk}$ in Architectural, $\frac{7a}{Elk}$ in Builders

ELKAY MANUFACTURING COMPANY
1898 South 54th Avenue • Chicago 50, Illinois

The World's Oldest and Largest Manufacturer of Stainless Steel Sinks

The Elkay LUSTERTONE Stainless Steel Sink won the Fashion Academy Gold Medal for 1951—and every day wins more and more acclaim! LUSTERTONE is still the only product of the plumbing industry to win this award.

PRODUCT NEWS

FURNITURE AND FABRICS. A formula rich and familiar: leather, chrome and marble

Strawberries floated in the orange punch and a tape recorded played a 9-yr.-old's piano composition entitled, for the occasion, "Show-room Opening." Laverne Originals had moved from its cozy mid-town Manhattan quarters uptown—in many ways.

The charming geometric prints which characterize the firm's fabrics and co-ordinated papers are there in the Miesian loft, exhibited in a marvelously restrained manner. The contemporary furniture, designed by Laverne's Architectural Research Unit, is of the genus *spartan luxurious*. Dark marble slabs selected



It's paper. It's washable. It costs \$150

for subtle grain are set on chromed steel legs. Natural cowhide is carefully worked on a bench, a stool, and a magazine rack.

Erwine Laverne's own *Marbalia Mural*, which the designer suggests for the wall in a room, is a 9' x 21' single panel of wallpaper printed in broad active sweeps of color. It sells for \$150 and is available in custom colors.

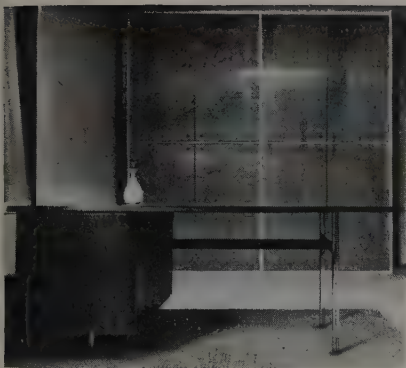
The biggest news, however, is in the svelte showroom's smallest room: glass fiber fabrics closely woven in a silky sharkskin twill and printed in the best designs yet to hit the wonder material. Considering the easy up-



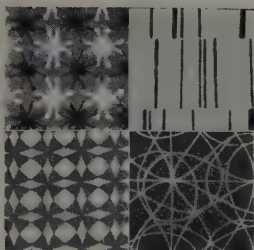
The 74" leather-topped bench sells for \$387

keep—the fabric launders, needs no ironing—the price, \$6.00 per yd. for a 48" width, is reasonable.

Manufacturer: Laverne Originals, 160 E. 57th St., New York 22, N. Y.

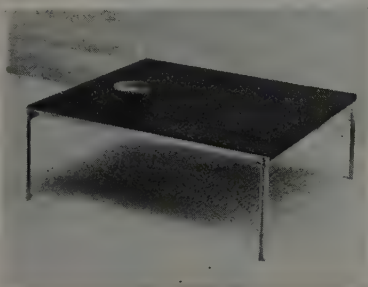


Gracing the showroom are furniture pieces such as the precisely scaled walnut desk and cabinets above. They will be made on special order.



Four of the patterns available in glass fiber fabric.

Belgian sea-green marble with a trace of veining tops the 31" x 36" coffee table. Its mechanical joints are the item's only dressing. The table retails for \$243.



The lush little cowhide rack, priced at \$79, nests periodicals. Pottery, too, is on sale at the showroom.



(Continued on page 162)



FIAT

Admiral... THE

SHOWER CABINET WITH A

VITREOUS PORCELAIN ENAMEL INTERIOR

The smooth, glass hard, vitreous porcelain interior surfaces of the Admiral Shower provide the ultimate in cleanliness and sanitation, they remain white and impervious to wear for a lifetime. Exterior of side and back panels are regularly finished with vitreous porcelain enamel ground coat, but can be furnished to match interior at small extra cost. Front stiles and head rail, bonderized, galvanized steel finished in white synthetic baked-on enamel. Receptor, deep type terrazzo made of black and white marble chips and white cement. Sizes 36" x 36" x 80" and 40" x 40" x 80". Illustration shows this shower equipped with a Fiat Dolphin heavily chromium plated glass door. The Admiral shower is suitable for high grade residential and institution installations.

Complete specifications in Sweets' Architectural Catalog File, or write any of the three Fiat plants for catalog.



FIAT METAL MANUFACTURING CO.

Three complete plants
9301 Belmont Ave., Franklin Park, Ill.
Los Angeles 33, Calif. Long Island City 1, N. Y.

In Canada—Fiat showers are made by Porcelain and Metal Products, Ltd., Orillia, Ontario

More Beautiful-

More Flexible-

More Popular



KITCHEN MAID CABINETS IN *Natural wood finish* AND 7 OTHER ATTRACTIVE COLORS

Now famous Kitchen Maid Cabinets are available to you in a handsome Natural finish in addition to seven other carefully selected colors. Lovers of the friendly, informal kitchen will find it hard to equal the effect created by the Natural-Line. Hard-to-mar transparent finishes accentuate the beauty of hardwood grains, and give the kitchen an atmosphere of warmth and hospitality that only wood can provide. Like other Kitchen Maid cabinets, the Natural-Line is readily adaptable to use of the new built-in range and oven units, both gas and electric. Specify Kitchen Maid cabinets for your next project. Write for catalog.

COMPARE THESE FEATURES

Strong, Hardwood Construction • Hard-to-mar Factory Finish • Modern Flo-Line Styling • Quiet, Rustless Aluminum Drawers • Scores of Convenience Features • Seven Colors and White • Experienced Dealer Assistance

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FIRST AND BEST IN
KITCHENS

THE KITCHEN MAID CORPORATION, 423 Snowden Street, Andrews, Ind.
Please send new booklet containing 10 practical kitchens with details of the complete Kitchen Maid line. I am an ☐ Architect, ☐ Builder, ☐ Dealer.

Name _____

Address _____



Look for this sign in your dealer's window. It signifies his skill as a member of the nation's oldest kitchen planning organization.



Now only 29⁴⁰* will
protect your home

Invest \$29.40 in Rain-L-Flo Gutter Tube, protect your home from leaf-clogged gutters, and overflow damage to walls and paint. Protect yourself from messy gutter cleaning jobs and dangerous rooftop climbing. Protect your budget from costly gutter replacements, extra paint jobs and wall repairs. Made of a 3-inch diameter tube with internal support brass spring. Rain-L-Flo is easily and quickly installed without special tools.

*Approximately 60 feet of RAIN-L-FLO Gutter Tube will protect the average small home.

RAIN-L-FLO GUTTER TUBE

WYNNCO PRODUCTS CORP.

344 Luckie St., Dept. W-23, Atlanta, Ga.

- ☐ Please send complete information about Rain-L-Flo Gutter Tube.
☐ Please rush _____ ft. Rain-L-Flo Gutter Tube at 49c ft., express prepaid.*
 Enclosed find ☐ check ☐ money order for \$_____ as payment in full or 1/4 with order, bal. C.O.D. *Orders of 60 ft. or more.

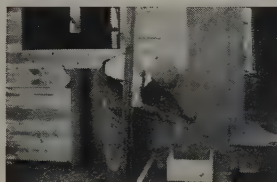
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CITY _____

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MAKE ALL HOMES WEATHER-SAFER



Sisalkraft as sheathing paper and under flooring



Sisalkraft under and over concrete slabs



Sisalation as insulation for walls, ceilings and floors

at less cost with
SISALKRAFT
waterproof building paper

and
SISALATION
the reflective insulation
and barrier against moisture-vapor, wind, drafts and dust

RIGHT
for all types of homes
in all price ranges

FOR FREE SAMPLES
and installation specifications
WRITE Dept. MB-3.



THE SISALKRAFT CO.

203 WEST WACKER DRIVE, CHICAGO 5, ILLINOIS
NEW YORK 17, NEW YORK • SAN FRANCISCO 5, CALIFORNIA

He used his **head**
instead of his back!



Steel pipe snow melting systems enhance property values, too!

The most envied man in any block, a few years ago, might have been the one with a new post-war car in his garage . . . or a television antennae on his chimney. But during the last "big snow", thousands of weary shovel wielders would have voted the foresighted owner of a snow melting system just about the luckiest "man of the year."

The complete passing of the snow shovel may still be years away but, more and more, home owners are installing hot water snow melting systems to keep sidewalks, driveways, steps and service areas free of snow and ice all winter long. For these systems steel pipe is naturally first choice!

The durability, adaptability and relative economy of steel pipe helps to put this "automatic snow remover" within the reach of thousands of home owners—less than the cost of an aching back and stiff muscles, or the continued inconvenience of a snow-bound car.

Yes, snow melting is definitely "coming into its own", and remember, the property *with* it always will be a preferred value.



With a driveway snow melting system the family car is always instantly available for pleasure, business, or emergency use. Steel pipe snow melting keeps Americans mobile!

**Steel Pipe
is First Choice**

Write for a copy. A free 48-page color booklet "Radiant Panel Heating with Steel Pipe"

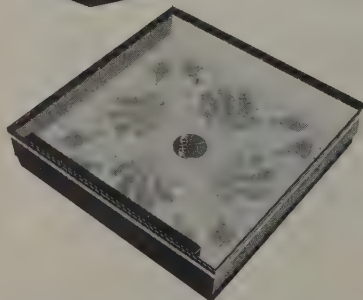
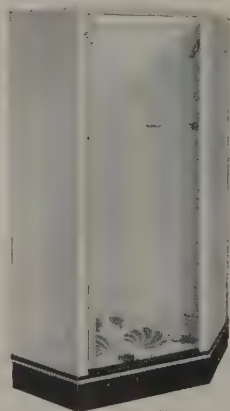
COMMITTEE ON STEEL PIPE RESEARCH

AMERICAN IRON AND STEEL INSTITUTE

350 Fifth Avenue, New York 1, N.Y.

LEAK-PROOF TROUBLE-PROOF SHOWER BATHS FOR Homes in every price class

Weisway's Model VR combines perfectly with interior finish materials for handsome built-in installations (as at right). Corner entrance models (below) save additional floor space.



Weisway's exclusive Vitreous Porcelain Enamel Receptor is a leak-proof, trouble-proof base for the shower bath.

Weisway
CABINET SHOWERS



Wherever you plan separate shower baths Weisway is your safe, dependable answer. Weisways are complete, self-contained Cabinet Shower baths, engineered and built to quality standards which assure client's satisfaction, *protect your reputation.*

Weisway walls are Bonderized, galvanized heavy gauge steel, with two separately baked on coats of enamel — corners sealed in compression tight joints. Vitreous porcelain enamel receptor, acoustically insulated, formed in one piece of heavy enameling iron, has Foot-Grip, No-Slip floor — safe, positively non-absorbent, easy to keep clean and sanitary. Write for catalog with complete specification data.

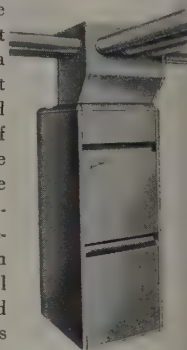
PRODUCT NEWS



HEATING SYSTEM delivers air to outside walls through stove pipe ducts

Janitrol *Save-Way* warm air system combines the advantages of perimeter heating with the economy of prefab duct work. Like General Electric's *Air-Wall* and Coleman's *Blend-Air*, the new system utilizes standard 4" pipe and fittings instead of costly custom-built ducts. Unlike the earlier two, the *Save-Way* does not call for special registers—any floor or wall type diffuser may be used. Janitrol, in fact, supplies only design information and the furnace; pipes and fittings are obtained through local jobbers.

In *Save-Way's* operation, the heated air is distributed through the small round ducts to the registers situated at the outside walls where it warms the normally cold surfaces. Drafts and "radiant cold" are stymied. The bonnet temperature is kept at a moderate level so that the air may be delivered continuously instead of in hot spurts. Because the air collected to be reheated is still relatively warm, only one return line is necessary in the average single-level house. Builders should find the small 4" ducts easy to handle right on the job. Only the sheet metal plenum requires shop work. Installation costs are estimated to be a third less than those for conventional warm air systems. At present, designs are available for homes with crawl space or basement; *Save-Way* is not recommended for use in concrete slab construction. *Manufacturer: Surface Combustion Corp., Toledo 1, Ohio.*

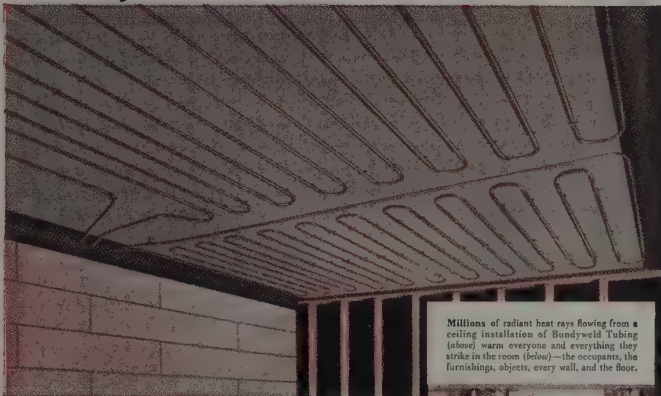


SHREDDED PLASTIC FILTER attracts smoke and pollen particles

While the affinity which many plastic materials have for dust drives their fabricators to absorb (and currently to antistatic chemicals), one company has capitalized ingeniously on the natural electromagnetism of certain resins and waxes. Goodyear shredded polyethylene sheet into a porous mass and encased the filaments in a wire cage to make a highly efficient air filter for heating and cooling systems. For two years the product has been tested in big and little applications. The findings, revealed in the January *American Society* (Continued on page 170)

HENRY WEIS MFG. CO., INC., 342 Weisway Bldg., Elkhart, Ind.

"Choose ceiling radiant heating," says Bundy to future home owners—for you



Like having the sun in your ceiling— Bundyweld ceiling radiant heating

Have you considered the many advantages of ceiling radiant heating for that home you are planning to buy, remodel, or build? This truly modern system offers you savings, convenience, and comfort not matched by any other.

With ceiling installations of Bundyweld, for example, heat rays flow evenly, freely downward, not up through floors to be lost in rugs, furniture, draperies. Here is heating that really radiates, gently warming everyone and everything in the room. Heating so comfortable, so natural it's like having the sun in your ceiling.

Savings, too

More, because it's draft-free heat, less dust is carried into upholstery, curtains, draperies. Because it's even heat, no dirt streaks form on walls or ceilings. You save extensively on dry-cleaning, wall-washing, and redecorating

costs, enjoy easier day-to-day housekeeping.

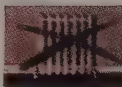
These home maintenance economies, plus fuel savings over the first few years, more than pay for any additional first costs. Continuing yearly savings make this your most economical long-run heating system by far.

Talk to your real estate man, heating contractor, architect, or builder about radiant heating now. And about Bundyweld Tubing, too. Bundyweld is the only tubing double-walled from a single strip. It's tough steel tubing, copper-coated inside and out. Bundyweld is leakproof, takes high pressures in stride, transmits heat quickly.

Send coupon for free booklet

Send coupon at right for free booklet describing fully the many advantages of ceiling radiant heating. Radiant Heating Division, Bundy Tubing Company, Detroit 14, Michigan.

Millions of radiant heat rays flowing from a ceiling installation of Bundyweld Tubing (above) warm everyone and everything they strike in the room (below)—the occupants, the furnishings, objects, every wall, and the floor.



No radiators or registers interfere with furniture arrangements or take up valuable floor and wall space.

Bundyweld is the only tubing double-walled from a single strip. It's quickly, easily fabricated into completed radiant heating grids—with major savings in time and construction costs.



BUNDY TUBING COMPANY

Detroit 14, Michigan

WORLD'S LARGEST PRODUCER OF SMALL-DIAMETER TUBING

Radiant Heating Division
Bundy Tubing Company, Detroit 14, Michigan
Send me the free literature I've checked:
☐ Bundy consumer brochure on ceiling radiant heating
☐ Bundy technical brochure for the trade

Name _____
Company _____
Address _____
City _____ Zone _____ State _____

First ad in new national campaign directed to future home owners.

Advantages of Bundyweld Tubing

Bundyweld is the only tubing double-walled from a single strip. It's steel, copper brazed through 360° of wall contact, copper-coated inside and out. It gives perfect radiant heating performance. Bundyweld transmits heat quickly. It's leakproof. Its smoothness and freedom from scale promote unimpeded water flow.

Bundyweld gives major fabrication savings, too. Bundyweld comes in 20' lengths for easy handling, one end expanded (when specified) for easy joining. Ductile Bundyweld bends easily on simple fixture. Lightweight, rigid grids of Bundyweld are easily, quickly mounted on ceiling.

It is the conviction of Bundy Tubing Company that radiant heating systems rightly belong in ceilings.

Bundy tells future home owners why in an intensive, full-page, four-color campaign appearing in *Better Homes and Gardens* and *American Home*—magazines carrying immense weight with consumers interested in buying, building, or remodeling homes.

Are you ready?

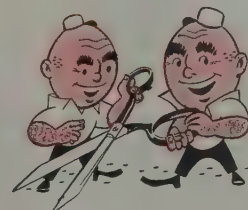
Interest in radiant heating has spurred sharply upward since the end of World War II. The all-new Bundy campaign is designed to give future home owners important information on ceiling radiant heating and on the Bundyweld Tubing features that help assure a perfect, long-lasting, economical system.

This campaign, of course, will help pave the way to even stronger consumer acceptance of ceiling radiant heating and Bundyweld Tubing. Result for architects and builders: Those who offer Bundyweld ceiling radiant heating systems will have a powerful, convincing, and much-wanted sales feature to speed sales to receptive buyers. Result for plumbing and heating contractors: Continually increasing business and good, sound profits from the installation of Bundyweld ceiling radiant heating systems.

Radiant Heating Division

BUNDY TUBING COMPANY

Detroit 14, Michigan



The Bundy consumer brochure on ceiling radiant heating, to be offered in every national radiant heating ad, was written with you in mind, too. Let us send you a copy. It's packed with meaty facts.

Radiant Heating Division

Bundy Tubing Company, Detroit 14, Michigan

Send me the free literature I've checked:

- ☐ Bundy consumer brochure on ceiling radiant heating
☐ Bundy technical brochure for the trade

Name _____

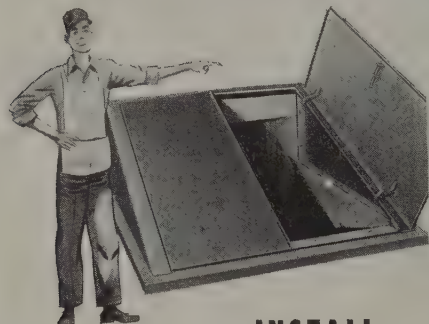
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Open up

THE WAY TO BETTER BASEMENTS



INSTALL

Bilco® COPPER-STEEL CELLADORS

and give your customers the only practical means of true basement efficiency . . . an accessible basement for moving furnishings, equipment and supplies. Extra room for deep freeze and laundry. Even an added rumpus room with insurance against fire and theft.

Better for you, too! A Bilco door can be hung in ten minutes or less when you are ready to pour the capping or side walls.

Remember! with a
BILCO CELLADOOR
Your customers get
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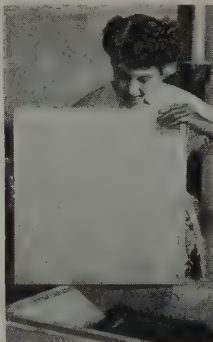
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PRODUCT NEWS

of Heating & Ventilating Engineers Journal, are impressive. Unlike the oil type filters which work like flypaper, catching only what hits the surface but letting many minute particles pass through, the plastic filter picks up an electrostatic charge when hit by an air stream which attracts and retains fine dust,



soot, and pollen particles which are suspended in the air. Another feature of the new filter: it can be cleaned easily by a rinse in clear water and may be used countless times without losing its effectiveness. In experi-

mental residential installations in the Akron, Ohio area, homeowners reported cleaner houses, less irritation to allergy sufferers.

It is evident that the \$12.50 plastic filter has advantages over the ones that work by impingement, but how does it compare with the expensive electrical precipitator devices? Good-year has no conclusive test data as yet, but they have found when the filters are used in tandem with a mechanical precipitator, the dust removal process is improved. Because of metal restrictions (the frame is an aluminum alloy), the filters will be available nationally only in limited quantities. They are made in three sizes: 16" x 25" x 1", 20" x 20" x 1", and 20" x 25" x 1".

Manufacturer: Goodyear Tire & Rubber Co., Akron 1, Ohio.

LIGHTING FIXTURE. Stand, pin, hang it up



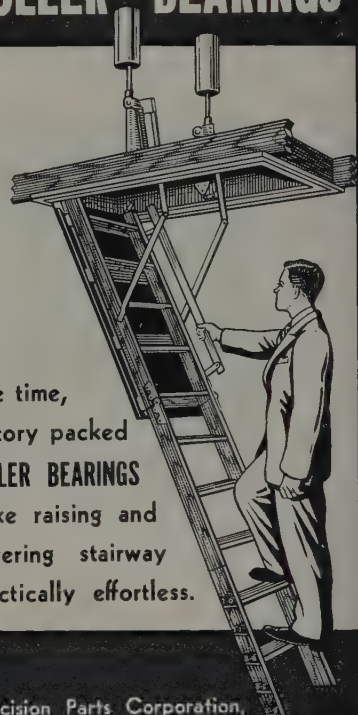
Without looking gimmicky, Greta Von Nessen's SPH lamp offers as much flexibility as could be demanded of a light fixture. Its torch (which holds a 100w. incandescent bulb) swivels freely over the bent steel tubing base, so that the SPH may be adapted quickly and easily as a ceiling or wall fixture or table lamp. The 14" diameter aluminum shade pivots from a center nob. It is finished in a mat sand-colored enamel; the tubing in dull black. Over-all height

of the lamp is 16". It retails for \$29.75. Manufacturer: Nessen Studio, 5 University Pl., New York, N. Y.

(Continued on page 178)

PRECISION

the only attic stairway
equipped with
ROLLER BEARINGS



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a salute to private enterprise in military housing



Throughout the nation, thousands of fine rental homes are being rushed to completion for officers and enlisted men of the Armed Forces. These much-needed units are made possible through the initiative, know-how and capital of American private enterprise. Free enterprise, in cooperation with the Armed Services and the Federal Housing Administration, is doing a job that in some countries could never be attempted.

Mortgage specialists of H. J. Ludington, Inc. are proud of their part in financing several of the largest of these projects, including—

FAIRCHILD AIR FORCE BASE . . . 1000 Units <i>Spokane, Wash.</i>	}	\$16,058,100
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Total Mortgage Financing

\$16,058,100

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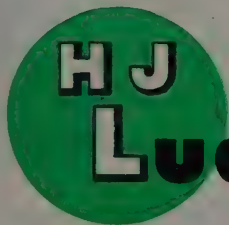
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H. J. Ludington, Inc., financial and investment specialists for more than a quarter of a century, were pioneers in FHA Mortgage Financing. In addition to military housing projects, the firm also handles civilian housing in defense areas, individual residential mortgages in all parts of the country, and large scale commercial and industrial loans.

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Funds are available through H. J. Ludington Inc. for temporary (construction) and permanent financing anywhere in the U.S.A. During the past 2 years complete financial arrangements have made for 84 large rental projects.

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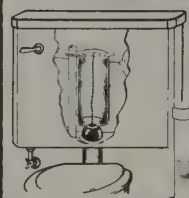


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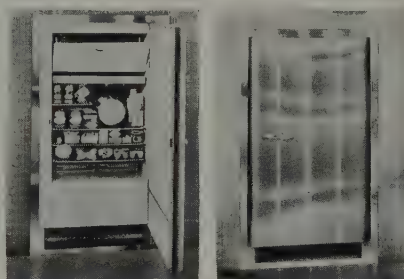
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PRODUCT NEWS

REFRIGERATOR to warm interior designers' hearts. It fits into wall pocket

Hopping on the *built-in* bandwagon, Ultra-Cold, Inc. has taken a bulky hulk off the kitchen floor: the firm is marketing a refrigerator for flush-to-wall installation. A good-sized unit with 10.4 cu. ft. storage capacity,

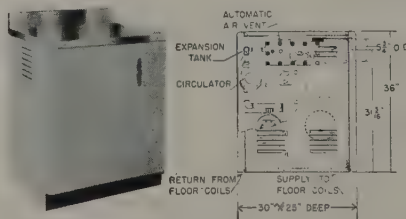


it sets in a recess 30½" wide, 28" deep, and 5' high. It has a stainless steel door front with 1¼" trim (also stainless). Glass fiber, 3" thick, is used as insulation. Beneath the door, a protective grille of ½" mesh masks a small fan motor which draws in and expels air. In quantities of six or more, the new appliance sells for \$275. Specified enamel colors will be applied to order.

Manufacturer: Ultra-Cold, Inc., 2615 Exposition Pl., Los Angeles 18, Calif.

DRESSED-UP BOILER scaled for kitchen installation

The white jacket boiler engineered for Levitt's Pennsylvania houses (H&H, Feb. '52) is now available to builders throughout the country. Compacted in its neat 3' x 30" x 25" case is an oil burner, expansion tank, circulator, domestic hot water coil, diagonal tubular boiler, and controls. Insulated for quiet operation, the unit stands at ease in a kitchen, and obviates the need for a utility room or special

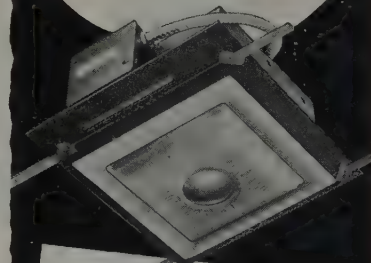


closet. Its flat counter-high top may be used as a work surface or, with a layer of thermal insulation removed, will serve as a hot plate. For \$265 the Levittown *Tabletopper* is supplied with a stainless steel cover and back-splash; with a white top, it sells for \$10 less. Models are made for hot water and radiant coil heating.

Manufacturer: York-Shipley, Inc., York, Pa.

(Continued on page 182)

More profit-less work with "EASIER-TO-INSTALL" Pry-Lite RECESSED LIGHTING FIXTURES (1000 series)



*Pry-Lites
SAVE INSTALLATION TIME
because...*

U. I. APPROVED FOR ANY STANDARD BUILDING WIRE—No asbestos wire required—approved for R, T, TW, Romex, etc.

NO FRAMING IN—Adjustable mounting straps eliminate framing in. Housing locks into position.

BUILT-IN PULL BOX—prewired—saves one box and hook-up time.

ADJUSTABLE PLASTER GROUNDS—Fit any finish from ½" to 2" thick.

ALWAYS EASY ACCESS—Pull box is accessible from either side or housing may be dropped through plaster flange to reach box from below.

"SNAP-ON" FRONTS—Firmly held by spring tension—no nuts, bolts, screws or hinges to fool with; merely snap-on—snap-off.

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As America moves into an era of a million new homes every year, the impact of LIFE's home-building editorial and advertising pages on this mammoth audience becomes of greater and greater significance to the nation's manufacturers and distributors of building materials . . . to contractors and architects.

For LIFE's reporting on home news is read eagerly by the largest audience in all publishing history—23,950,000 people every week—an audience that grows to 62,600,000 in the course of 13 issues!*

* From *A Study of the Accumulative Audience of LIFE* and its supplement *The LIFE Market*, by Alfred Politz Research, Inc. In these studies, a LIFE reader is any person who has read one or more of 13 issues.

LIFE's audience includes in 13 issues:

62,600,000 people over age 10

37,100,000 people who live in owned homes

37,800,000 people aged 20-44

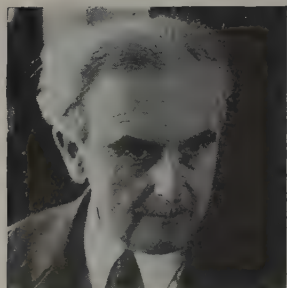


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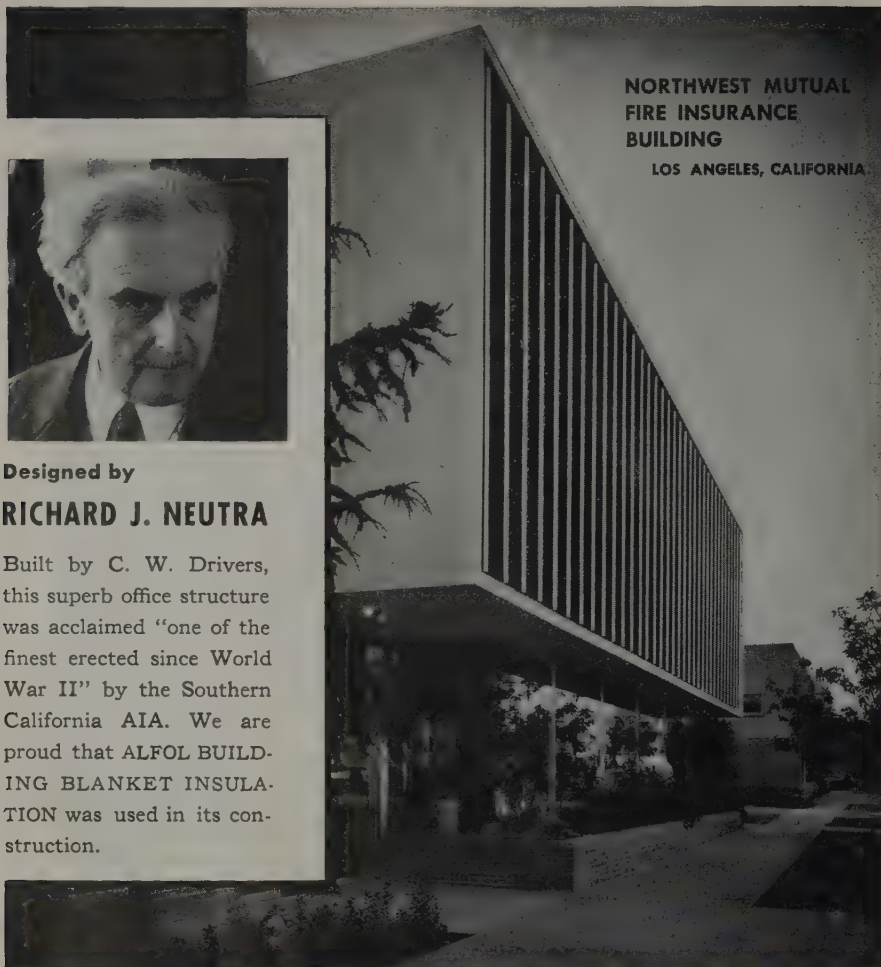
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PRODUCT NEWS

CONCRETE FORM SYSTEM has re-usable tie rods, sturdy aluminum walers

Erecting concrete houses and basements around Detroit, Rocwall construction company evolved a forming system which saved the firm labor time and materials. Several other construction firms leased the equipment last year and, encouraged by their reactions,

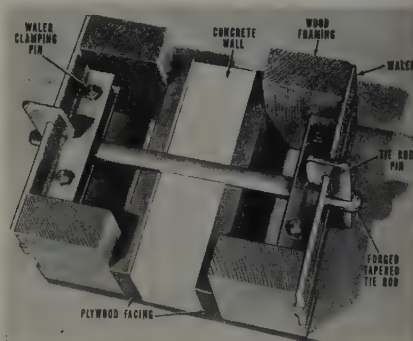


Fabricated in easy-to-handle panels, the Rocform system includes special hardware. Forms may be set up by hand and dismantled quickly.

Rocwall introduced its Rocform system at this year's builders show in Chicago. The system is for sale at \$3,800 per "package," i.e., forms and accessories for an average basement with a perimeter of about 120 lin. ft. The first basement poured into Rocform would cost the purchaser about \$32 per lin. ft. or approximately \$2 per sq. ft. of wall. But after 200 re-uses, costs would be down to less than 1¢ per sq. ft.

Unique tie rods and walers are the key to the re-use economy of Rocform. The system employs flat, forged, tapered tie rods which may be reclaimed quickly from each job—even after the rods have been in concrete a week. Slots in the rod act as automatic spacers for various wall thicknesses; no measuring is necessary. As the rod pins are slipped into the slots, locking the walers, the inside and outside wall forms are spread and tied in a single step. Steel clamps are then applied to lock the panels together and act

The wall thickness is set automatically as the tie rods are locked in position in the walers.



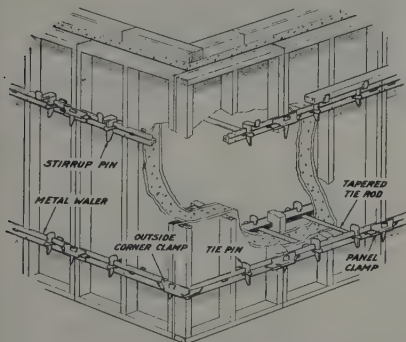


This 30' x 28' concrete house was built in the Detroit area to sell for \$6,700. Its roof and walls were constructed with Rocform panels. A 1" layer of glass fiber insulation was suspended in the middle of the 10" thick walls.

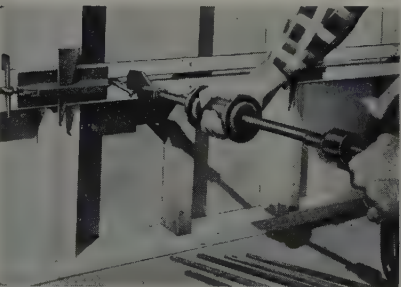
as bracing. Alignment of one side wall and a small amount of bracing complete the operation.

The rods carry a working load of 7,200 lb., and the aluminum alloy walers—banding both sides of the form like barrel staves—absorb the heavy shocks of assembly and stripping. Three men can set up the panels for an average basement in 2 to 3 hr. The system is adaptable for fence construction, foundations as well as single-level concrete homes.

Manufacturer: Rocform Corp., 15160 W. Eight Mile Rd., Detroit 35, Mich.



The integral aluminum walers which band both sides of the panels help speed construction. Complete form work for an average basement may be set up in about 2½ hr. by three men.



Steel panel clamps are fastened together at the walers. Forged tapered tie rods are stripped from the wall with a rod puller, and may be re-used hundreds of times.

(Technical Publications on page 188)



Arrangements Unlimited

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WOOD
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WINDOWS

Hundreds of custom-like effects can be achieved by combining stock size Pella casement units. When several Pella units are used in an opening, they join to form neat, narrow mullions. Combine these units into dormers, circular bays, corner and picture windows, sunshine walls and many other arrangements, with or without muntins. Your clients can have window effects they never dreamed existed.



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GLASS SIZES UP TO 24" x 60"—Pella offers stock size units with glass sizes up to 24" wide by 60" high. Stock size Pella wood casements are available to accommodate a wide variety of standard Thermopane and Twindow insulating glass.

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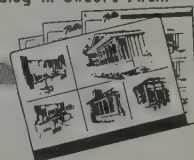
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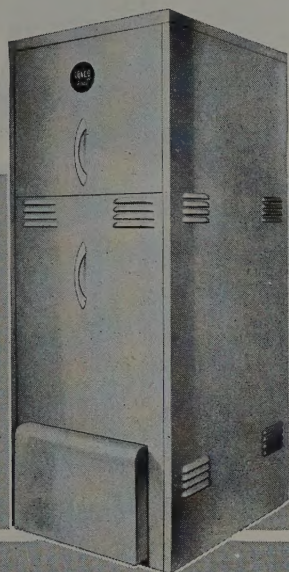


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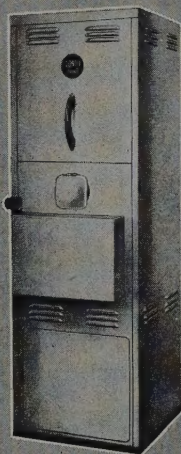
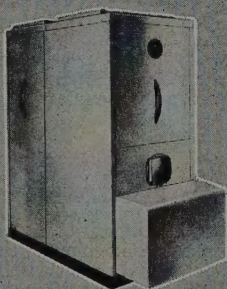
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RANCHIEFF LO-BOY winter air conditioner for basement installation.

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Prospect Meadows - Chicago (Red Seal Homes, Inc.)
Ridgewood Estates - Detroit (Field Building Company)

LaGrange Highlands, Westchester - Chicago (Robert Bartlett Building Corp.)

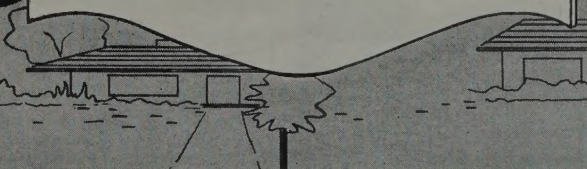
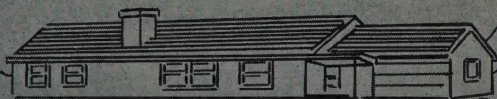
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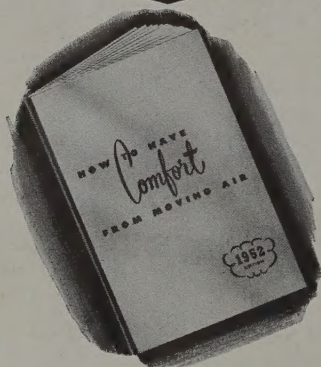
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TECHNICAL PUBLICATIONS

ELECTRICAL EQUIPMENT. Electrical Living Homes. Westinghouse Electric Corp., Box 2099, Pittsburgh 30, Pa. 20 pp. 8½ x 11".

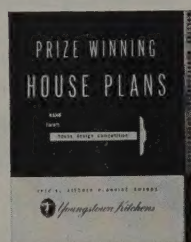
Integrating electrical appliances and wiring in the house plan is the theme of this Westinghouse Better Homes Bureau publication. Written for designers and builders, the guide tells how to select and group kitchen and laundry equipment according to floor space available and flow of activities in each work center. It discusses lighting as a decorative as well as functional element and illustrates various applications with photos and diagrams. Electrical heating units and sun and germicidal lamps are described, and the general requirements for wiring are outlined.

VENTILATION. The Best Way to Ventilate a Kitchen. Stanthony Corp., 6900 San Fernando Rd., Glendale 1, Calif. 4 pp. 8½ x 11".

Two new kitchen ventilating hoods are pictured in this specification folder. Both models (one is a straight lined white enamel unit, the other a copper "provincial" type) are designed to fit beneath standard wall cabinets placed over the cooking unit. Roughing-in details and dimensions are given for setting the hood and venting it through a section of the cabinet above.

KITCHEN PLANNING. Prize Winning House Plans, Special Kitchen Planning Awards. Youngstown Kitchens, Builder Div., Mullins Mfg. Corp., Warren, Ohio. 32 pp. 8½ x 11".

Youngstown has turned out a handsome two-color presentation of last spring's NAHB-



FORUM house design competition award winners for kitchen planning. In a series of two-page spreads, each of the 13 original prize winning layouts is illustrated together with a coded diagram and corresponding list of the Youngstown equipment to fit the plan. Dimensioned elevations, side and top views of each type of enameled steel wall and base cabinet and sink models are illustrated.

HEATING. Simplified Guide to Heating. Domestic Manufacturing Co., 201 Westlake Ave., Seattle 9, Wash. 14 pp. 11 x 8½".

Transparent overlays, illustrating furnace and duct-work layouts for eight types of warm air systems, may be used with the floor plans in this booklet as a simple means of determining the schemes applicable to a particular type of house. Four basic plans are pictured: two one-story homes without basements; a two-story home built on concrete slab; and a two-story home with a basement. An easy,

(Continued on page 192)



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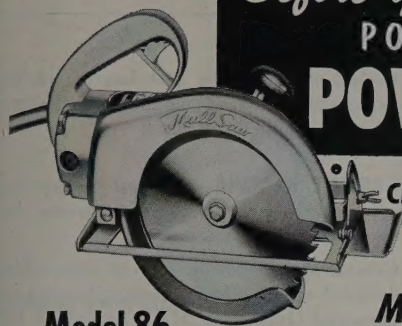
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Majestic INDOOR INCINERATOR



installed in Utility Room or Basement

And there's plenty of reason for this enthusiasm. Mrs. Housewife fully appreciates its step-saving features... the economical way it solves refuse disposal problems... the magic way it burns all wet and dry garbage and household trash, using no additional fuel! She likes the sanitary cleanness of disposal by flame!... its safe, positive, down-draft action... and especially, its guaranteed operation!

WRITE FOR DETAILS!

A Majestic Indoor Incinerator is a modern convenience for every home — but a *must* for basementless homes and those with automatic heating, where rubbish can't be burned in the furnace. It adds to value of property far beyond its low cost. Gas-fired model also available. Write today for free folder!

Burns wet and dry garbage and trash • No fuel required • Easy to install • Taps into furnace flue • No interference with furnace operation • Patented downdraft gives efficiency • 2 and 3 bushel capacities • Operation guaranteed

The Majestic Co., Inc.

413-A ERIE ST. HUNTINGTON, INDIANA

Nationally advertised building products over 45 years



NOW...

MORE THAN EVER!

ARCHITECTS
BUILDERS
CONTRACTORS
DEALERS

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NEW IMPROVED

Hidalift

THE 100% CONCEALED SASH BALANCE

ONLY HIDALIFT OFFERS THESE
ADVANCED AND EXCLUSIVE
CONSTRUCTION FEATURES...

100% CONCEALED — There's nothing exposed to mar the beauty of modern windows. No part protrudes or is otherwise exposed to view.

DESIGNED for EASY, FAST INSTALLATION — smooth, lifetime operation.

EASIER TO TENSION — Tensioning can be applied before or after installation without special tools.

FITS WINDOW with or without weather-stripping.

POSITIVE LIFTING POWER provided by highest quality coil spring.

Nationally Advertised Hidalift Offers New Profit Opportunities.

Dealers and builders make money on time-saving installations. Patented after-installation adjustment feature and non-jamming action eliminates future troubles.

Quality Products For Over a Century



TWO TYPES OF ATTACHING BRACKET — Tension is applied DURING installation by winding hinged bracket arm (on "L" type); AFTER installation by turning tensioning screw on "L" and cup types.



HIDALIFT DIVISION Dept. MB3
The Turner & Seymour Mfg. Co., Torrington, Conn.

Gentlemen:
Send complete literature and prices on Hidalift
Please check ☐ Dealer ☐ Builder
☐ Architect ☐ Contractor

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the **BIG NAME** in **HEATING**

— for radiant or radiator heat!

Compact, Efficient—Quickly Installed!



Mueller Climatron

Type 10 Gas
Boiler — from
54,000 to 378,000
Btu.

**— fuel-thrifty boilers
add sales appeal to every job you build!**

This famous name on a radiator or radiant installation wins immediate acceptance from your clients. And their satisfaction — years afterwards — is good-will that pays dividends.

Compact, beautifully styled, the Mueller Climatron gas boiler is built for today's homes . . . sized to give close-to-capacity fits for every job . . . designed for quick, easy installation . . . and built to deliver trouble-free comfort for years.

Specify or recommend the Big Name in Heating — Mueller Climatron — for all your radiator or radiant heat jobs. Your choice is backed by Mueller's 95 years of home-heating leadership. Write for our new "all product" catalog. . . L. J. Mueller Furnace Co., 2020X W. Oklahoma Ave., Milwaukee 15, Wis.



Type 20 Boiler — For commercial sales. Sectional construction for battery installation from 315,000 to 3,780,000 Btu. For hot water, steam or vapor heat, and hot water supply.



— Mueller Climatron

FOR GAS FOR OIL FOR COAL

TECHNICAL PUBLICATIONS

method of calculating heat loss for various rooms and buildings is outlined, and the term "heat" is intelligibly defined.

RADIANT HEATING. GM Steel Tubing. Rochester Products Div. General Motors, Rochester, N. Y. 8 pp. 8½ x 11".

General Motors' flexible low cost steel tubing designed specifically for radiant heating applications (June issue '51) is detailed in this new brochure. Formed at the building site or in the shop, the new tubing is said to hold its dimensions through the usual experiences of storage, transportation and rough handling.

PAINT. Specifications for Using Stain Luminall. National Chemical & Mfg. Co., 3617 S. May St., Chicago 9, Ill. 4 pp. 8½ x 11".

One of the first technical folders generally available on latex interior paints, this publication contains valuable data on how to prepare wall surfaces — plaster, wallboard, cinder block—for applications of the durable synthetic base coatings. The information presented, based on actual performance as well as extensive laboratory research, includes recommendations for treating mildew, efflorescence and bleeding stains before painting. A coverage chart indicates the area covered per gallon for nine types of interior surfaces. For the architect who wishes to utilize latex paint in a school, factory, office, or hospital, the list of light reflection factors of 13 pastel tones should be a useful reference. A 50-chip color chart will be mailed with the specification sheet on request.

FLOORING. Specification Manual NOFMA Certified Oak Floors. National Oak Flooring Manufacturers Assn., 814 Sterick Bldg., Memphis 3, Tenn. 12 pp. 8½ x 11".

A new low cost method of installing strip oak flooring on concrete slab is detailed in this booklet. In the system described, staggered 2" x 4" sleepers are utilized as a nailing base instead of the usual wood subfloor. Tongue-and-groove hardwood strip is applied over the sleepers, which may be imbedded in mastic on the concrete floor or set directly in the slab before it hardens. Builders may find it economically feasible to provide hardwood floors in budget construction by using this system (which meets FHA minimum property requirements).

Prepared primarily for architects and builders, the manual also contains information on improved nailing techniques for applying flooring with heat treated, spirally grooved nails. In a section on finishing it recommends that fade resistant pigmented filler be used instead of stain, and reports that floor seal is now being used successfully for residential as well as heavy duty flooring.